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ADOPTION OF A COOPERATIVE LEARNING TEACHING STRATEGY IN A BACHELOR OF SCIENCE IN NURSING COURSE

A Thesis Submitted in Partial Fulfilment of

the Requirements for the Degree of

Master of Education

by

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Abstract

The purpose of this case study was to examine the ways in which cooperative learning was used in a senior Bachelor of Science in Nursing course. The subject of the case study was the professor who taught the senior Bachelor of Science in Nursing course. The questions guiding the study were:

1. How did the professor develop cooperative learning strategies?
2. How did the professor implement cooperative learning strategies?
3. How did the professor evaluate cooperative learning in the classroom?

The Implementation Perspective described by Fullan (1983) refers to effecting change; this approach guided the development of research questions. The significance of the study lies in its ability to communicate to other nursing educators that new teaching methods are being utilised. In this regard, in the education of nurses, effective changes are practical and possible.

In the review of literature the potential positive outcomes of introducing cooperative learning as a teaching strategy are examined. This is followed by an examination of the process of change, and the factors implicated in its success.

The professor chosen as the subject of the case study was someone interested in implementing cooperative learning in nursing education. The students were randomly selected after

signing a consent form, handing in questionnaires, and agreeing to an interview. The data were obtained through discussion observation, interview and questionnaires. Data collection strategies included the Group Evaluation Form (Reid, Forrestal and Cook, 1982) and the Individual Evaluation Form (Johnson and Johnson, 1984).

The findings of this case study are supported in the literature and are as follows:

1. Personal beliefs of the professor regarding teaching, learning, and cooperative learning play a dominant role in the development, implementation, and evaluation of cooperative learning strategies.

2. In an attempt to match personal beliefs and student needs with curriculum, the professor utilised the process of Mutual Adaptation (Fullan and Pomfret, 1977) in the development, implementation, and evaluation phases of the cooperative learning teaching strategy.

3. A network of support including the school, faculty, a facilitator, collaborators, and trainers is required throughout the development, implementation, and evaluation of cooperative learning strategies.

4. Effective evaluation is not an end-point, but an ongoing process throughout the development, implementation, and evaluation phases of the change process.

5. Effective development, implementation, and evaluation of a new teaching strategy cannot occur over a six week period, but must be allowed to evolve over an extended period of time.

6. The classroom climate and teaching style of the professor reflect his/her individual beliefs and personality.

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Chapter One

The Problem

Background

Bevis and Watson (1989) argue that nursing students are not being adequately prepared because of the emphasis on technical, professional curricula still being used in many schools. They contend that reflection, sharing, caring, problem solving, and critical thinking, are not being emphasised in the nursing curriculum, and that the "private journey" of learning is not being nourished. Instead the "public journey" of learning dominates (p. 32).

If true, this is a sad commentary on nursing schools, and it suggests that alternative methods of teaching and learning be found to facilitate the transition of nursing students from novices to sophisticated professionals. A new style of learning environment could aid in facilitating the fulfilment of learning needs and professional self-actualisation (Bevis & Watson, 1989). Nurses need the knowledge and the skills to empower their clients to assume control of their health as well as to meet the changing demands of an evolving health-care system and technological change. Therefore, nursing schools must provide an environment similar to one students will eventually work in, where they can learn to positively interact amongst and between fellow students, faculty, clinical agencies, and communities. This environment can provide empowering experiences for students so that they may in turn share this with their clients as well

as adapt to a changing world (Tornyay, 1990). In this regard, Tornyay (1990) states that "preparing for the unknowns of tomorrow requires that students learn to be effective problem solvers and understand they will be learners throughout their career" (p. 293).

Cooperative learning is a teaching-learning strategy which is alleged to enhance students' learning, achievement, productivity, reasoning abilities, reflective abilities, critical thinking abilities, problem-solving abilities, decision making skills, self-directedness, social skills, self-esteem, confidence, level of maturity, level of knowledge, creativity, sense of security, and professional skills (Cohen, 1986; Johnson & F. Johnson, 1991; Johnson & Johnson, 1994; Johnson, Johnson, & Holubec, 1994; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Rogers, 1983; Slavin, 1983). This teaching strategy involves heterogeneous group work where positive interdependence, promotive interactions, individual accountability, interpersonal and small group skills, and group processing are present (Johnson, Johnson & Holubec, 1994). It can be considered an integral component of the curriculum, where relationships, social skills, caring, concern, critical thinking, and problem solving are as important as the content. When nursing professors become aware of this teaching method in education and implement it in the classroom, nursing students may reap the benefits, and emerge from their studies as more confident and better educated professionals, ready to meet the challenges which life inevitably will present. This has been postulated by

authors such as Cohen (1986), Johnson and F. Johnson (1991), Johnson and Johnson (1994). It is for these reasons that a learning environment be created within the nursing curriculum, where students will be expected to learn and incorporate skills necessary for a productive and successful professional life.

Research Problem and Questions

The purpose of this descriptive case study was to determine the way in which a professor developed, implemented, and evaluated cooperative learning in teaching a senior Bachelor of Science in Nursing course (BScN). The following questions guided the research:

1. How did the professor develop cooperative learning strategies?
2. How did the professor implement cooperative learning strategies?
3. How did the professor evaluate cooperative learning in the classroom?

Significance of the Research

The study of how one professor developed, implemented, and evaluated a cooperative learning strategy within a senior BScN course has the potential to contribute to the extension of knowledge in the area of nursing education. First and foremost, this study can allow other nursing educators to understand how the process of developing, implementing, and evaluating a new teaching strategy is undertaken. Secondly it can provide a sampling of ideas and processes to other nurse educators thinking of undertaking a similar challenge. Thirdly, by

allowing others to see the ideas and the process utilised, they can be critiqued and improved upon, helping to advance the implementation of cooperative learning in nursing education (Fullan & Stiegelbauer, 1991). Finally, by demonstrating to others how the two holistic fields of nursing and education are similar to one another in that they both examine the whole person, nurse educators can select complementary teaching theories and strategies from education to enhance their teaching effectiveness.

Through the learning process, professors can acquire new knowledge regarding teaching and learning, and cooperative learning specifically, so that they can implement it and increase their comfort levels with it. Each professor who does this has the potential to raise awareness of the existence of new teaching and learning methods, and potential benefits amongst faculty and students. This case study aims to demonstrate to other nursing educators that changing teaching methods to incorporate cooperative learning is not only possible, but it is desirable and worthwhile.

The potential consequences of this case study are many. The increased exposure to cooperative learning may have the following effects: Increased comfort and knowledge level of the professor regarding cooperative learning may result in greater commitment to its use. This may result in a spill over effect to faculty, raising their awareness of cooperative learning and its potential benefits, and increasing faculty support for alternate teaching-learning methods. This may in turn, result

in evolution and transformation of teaching methods in nursing education, in order to incorporate cooperative learning. Finally, nursing students may benefit from a new learning model, and this could increase the teaching effectiveness within the program, resulting in a more knowledgeable and functionally competent nurse.

Definition of Terms

The following are the definition of terms for this study.

Curriculum: The definition of curriculum can be placed on a broad scale, being seen as "a course of study" at one extreme, and "as everything that occurs under the auspices of the school" at the other (Miller & Seller, 1985, p.3). The definition of curriculum for this case study concentrates on the transformational position and is holistic in nature. It is based

> on relationships--the relationship between linear thinking and intuition, the relationship between mind and body, the relationships between the various domains of knowledge, the relationship between the individual and the community, and the relationship between self and Self. In the holistic curriculum the student examines these relationships so that he/she gains both an awareness of them and the skills necessary to transform the relationships where it is appropriate." (Miller, 1988, p.3)

Cooperative Learning: Cooperative learning is a teaching-learning strategy which can be formal or informal. It

occurs when students work together either on a long-term or short-term basis to achieve pre-set and shared learning goals. Cooperative learning helps to focus student attention, set a learning atmosphere, set expectations for the content of the class, ensure processing of new information, and bring a learning experience to an end. Teachers may determine the direction, make decisions, intervene as necessary, and ensure group processing takes place (Johnson & Johnson, 1994).

Develop: To develop means to plan and devise strategies based on an assessed need so that a goal may be accomplished.

Implementation: Implementation is the process of putting into practice an idea, program, or set of activities which is new to the people attempting to bring about a change (Fullan, 1983, p. 216).

Evaluation: To evaluate is to make a judgement on the success and feasibility of selected items which can be of an affective, cognitive or psychomotor nature.

Teacher: In the cooperative learning model, teachers are co-learners, who are able to model and communicate to students the excitement, self-discovery, and commitment involved in the learning journey (Bevis & Watson, 1989).

Professor: For the purpose of this case study, the professor is the academic title given to a teacher in a university setting. The professor in this study was the subject who taught the senior BScN course.

Learning: The learning process has personal meaning for participants. When it is self-initiated, the learner can acquire new insight and information that can possibly result in personal, attitudinal or behavioral change (Bevis & Watson, 1989; Rogers, 1983).

Positive interdependence: Positive interdependence is said to be "the heart of cooperative learning" (Johnson & Johnson, 1994, p.5), and it occurs when all participants in the group perceive that for one participant to be successful, all participants must be successful. All of the students foster growth in sharing, helping, supporting and celebrating each other's efforts and achievements.

Promotive interaction: Promotive interaction is valued in cooperative learning as it positively influences group interactions and cognitive activities resulting in the promotion of group learning. Activities falling under this domain include problem solving explanations, peer teaching, and making connections between concepts. The use of encouragement, praise, support, and assistance aid in making this element so valuable (Johnson & Johnson, 1994).

Individual accountability: Individual accountability is necessary for cooperative learning as it enhances the strength of each student within the group, as they are responsible for contributing to the group's success. Each group member's performance is assessed and then compared against a standard of performance by the group and the

individual. This in turn offers feedback on learning needs and strengths, and on new directions for learning (Johnson & Johnson, 1994).

Interpersonal and small group skills: Interpersonal and small group skills are essential for the group to function effectively in cooperative learning, but are complex and must be specifically taught to the group and learned effectively. Some skills which may be taught are "leadership, decision making, trust building, communication and conflict management skills" (Johnson, Johnson & Holubec, 1994, p. 6).

Group processing: Group processing refers to a time set aside where students can reflect and discuss how well they work together in achieving their goals, as well as determine new strategies to improve their cooperative function. Teachers also become involved in group processing by helping to monitor groups and the class as a whole (Johnson & R. Johnson, 1991; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1988; Johnson, Johnson & Holubec, 1994).

Delimitations of the Study

The delimitations of this case study include the following:

1. This case study examines how one nursing professor utilised a cooperative learning framework within one classroom in one university.

2. This case study cannot be utilised as an accurate indicator to foretell the success of other cooperative learning initiatives in other courses and programs.

3. The level of faculty support and commitment was not examined.

4. The degree of change in the espoused results of cooperative learning were not measured. These espoused results are identified as: higher reasoning abilities; increased thinking strategies; problem-solving abilities; trust; tolerance; care and concern for others; increased self-esteem; greater coping abilities, and higher levels of achievement, performance, and learning.

Limitations of the Design

The design of this case study was limited in the following manner:

1. The data were collected and analysed by the researcher with some assistance from the subject of the study, the professor. Both were personally involved with the course and therefore some bias may have been unintentionally present.

2. The design of the case study was limited to descriptive results.

3. The researcher had to observe a great number of personal and group interactions at the same time and this could have reduced the validity of the non-participant observations.

4. The data collected from journals, questionnaires and interviews may not have been entirely truthful or complete.

5. Not all students consented to take part in the case study, therefore it is possible that the sample was not representative of the whole population of students.

6. Not all students handed in their first questionnaires.

7. A mistake was made by the researcher in that the first set of questionnaires were not coded properly with the students' identification numbers and therefore progression in ideas and thoughts could not be traced.

8. There was no formal training in cooperative learning prior to the commencement of this study.

9. The professor and the researcher were both new to cooperative learning and the combined inexperience may have been reflected throughout the development, implementation and evaluation phases of the program.

10. The evaluation forms were not designed to provide definitive answers regarding the effectiveness of cooperative learning, but instead provide data which were open to interpretation.

11. The case study followed the professor through one six-week course.

External Validity

Since this case study was isolated and observed only one professor at one university in one nursing program, it is difficult to generalize to the population without replication under the same conditions. It is important to note however that Fullan (1983) argues that using the implementation perspective, which is the conceptual framework guiding this study, increases

accountability by increasing the likelihood that programs will be stronger right from the definition stage. If this is true, the fact that no formal tool was used in the development of the cooperative learning model implies that difficulties will be inherent in the framework. These difficulties would lead directly to the creation of a weak plan, thus resulting in weak implementation. The final result would result in difficulty replicating the same study.

Overview of the Thesis

In Chapter One of this thesis the research problem is presented, including the purpose of and questions guiding the research, along with the conceptual framework, significance of the research, definition of terms, delimitations and limitations of the study. The review of related literature is presented in Chapter Two. In Chapter Three, the research design, sampling procedures, the site, consent, and data collection procedures are presented. In Chapter Four, the data from the research are presented. Chapter Five includes the discussion and analysis of the research data, and Chapter Six includes a summary of findings and conclusions.

Chapter Two

Review of the Literature

Introduction

First, current learning theories are discussed, followed by a discussion of the meaning of learning, teachers' roles, and an overview of cooperative learning. The chapter continues with discussion on educational change, including curriculum development, implementation and evaluation. The chapter concludes with a discussion of the conceptual framework for the study which was developed from Fullan's Implementation Perspective (1983).

Current Learning Theory

University education has long been viewed as a "means to an end". The "end" referred to in this statement is knowledge, with the time spent in the classroom "learning", referred to as the means to that end.

On average, students spend four or more years in university earning degrees. At the end of this educational journey, students could emerge as graduates, as people who are well-educated. According to Bevis and Watson (1989) and Rogers (1983), some goals of education are: to discover a lust for knowledge and discovery; to discover the value of being a reflective practitioner; to stop and critically question the consequences of actions within the surroundings; to recognise and accept personal and societal limitations; to develop consciousness of and acceptance of accountability for self, community, and society, as each relate to the other; to become

resourceful and flexible; to acquire the ability to ensure freedom from oppressive thoughts and behaviors; to develop skill in building alliances through a commitment to collaborating with friends, colleagues, and community; to develop a high level of self-worth and inner direction, as well as to become a life long learner.

The problem with the current post-secondary system of education is that it is failing to adequately prepare students (Rogers & Frieberg, 1994, Schön, 1987). For many, education entails memorising what another has deemed to be critical, only to be forgotten a short time after (Bevis & Watson, 1989; Cohen, 1986; Goodlad & Klein, 1970; Johnson, Johnson & Holubec, 1994; Rogers, 1983). Skills necessary to sustain the graduate in life such as critical thinking, reflection, accountability, cooperation, and positive communication skills are not emphasised, and most often they are not even taught (Bevis & Watson, 1989; Underbakke, Borg, & Peterson, 1993). The professor is often deemed to be the master, and the student solely the receptacle into which the "knowledge" and the "truth" are poured. The student is rarely allowed choice or control in his or her learning career. This poor exchange of knowledge, or this passive form of learning, does not aid in the preparation of the individual for entry into the "real world" - the world of greed, conflict, unrest, need, change, and uncertainty (Schön, 1987; Tishman, Jay, & Perkins, 1993).

Each university graduate completing a professional programme requires the knowledge and skills of his or her trade,

speciality or profession, but more critical is the requirement that the individual possess the ability to relate to the world and society in a positive and mature manner. In doing this, the graduate may utilise his or her knowledge and experience to first identify learning needs and then set out to fulfil them. It is then that the self-directed graduate has a chance of becoming educated.

The Meaning of Learning

In order to begin to provide the optimal environment for learning in our educational system, the real meaning of learning must first be explored. Rogers (1983), describes significant or experiential learning as personal and self-initiated. He believes learning to be pervasive, as it seeps into the inner learner and is reflected in his or her thoughts and actions. He also believes that learning can only be truly evaluated by the learner, as only the learner can apply his or her own unique meaning to the situation. In short, Rogers states "significant learning combines the logical *and* the intuitive, the intellect *and* the meaning. When we learn in that way, we are *whole...*" (p. 20).

Bevis and Watson (1989) describe educative learning as

> *a process in which an individual cultivates the disciplined scholarship and experiences necessary for expertise. This includes the following: Acquiring insights, seeing patterns, finding meaning and significance, seeing balance and wholeness, making compassionate and wise judgements while acquiring foresight, generating creative flexible*

strategies, developing informed, skilled intentionality, identifying with the ethic and cultural traditions of the field, grasping the deeper structures of the knowledge base, enlarging the ability to think critically and creatively, and finding the pathways to new knowledge. (p. 265).

The authors state that in learning, there is an opportunity for "behavioral change and growth" (Bevis & Watson, 1989, p. 265). The authors agree with Rogers (1983) that only the learner can truly evaluate the extent of the learning which has occurred.

Learning must be emancipatory (Bevis & Watson, 1989; Rogers, 1983). There must be an atmosphere of trust and freedom to reflect and to discuss, to question and to compare, to be creative, to discover, to be self-directed, to provide meaning, to empower, to hold accountable. It is what learners are able to do within and for themselves, that determines learning (Bevis & Watson, 1989; Rogers, 1983). Both Rogers (1983) and Bevis and Watson's (1989) definitions of learning describe the process as individual and unique in each learner. The next section will focus on the teacher's role in guiding learning.

Teachers' Roles

Teachers' roles in facilitating learning are pivotal. Teachers are those who facilitate learning so that it is educational. Rogers (1983) as well as Bevis and Watson (1989) describe teachers as co-learners who are able to model and communicate to students the excitement, the self-discovery, and the commitment involved in the learning journey. The authors

say that teachers are models for learning everything from content to behavior, from social processes to beliefs. Teachers must build an environment for effective learning. Teachers must demonstrate care and compassion as well as convey their faith in students' natural desires and abilities to think and to choose for themselves. The authors also believe that the learning environment must be a safe one, where students can feel free to express their ideas and beliefs without fear of ridicule or retribution. Here, trust between students and students, and students and teachers, as well as a sense of belonging and acceptance, are critical.

This learning environment cannot occur by itself. It must be nurtured and fed. A number of authors, Argyris and Schön (1980), Bevis and Watson (1989), Johnson and Johnson (1994), Schön (1987), Sharan (1994), Sharan and Sharan (1992), and Tishman, Jay and Perkins (1993), believe that teachers must be flexible, strategists, problem-solvers, critical thinkers, reflective, and above all cooperative in order to build the climate for learning. As well, they believe teachers must resist imposing their own learning styles, and instead, must actively discover and create new strategies for challenging and facilitating the growth of each student's mind, as well as be prepared to join students in uncovering new knowledge as co-learners. Finally, they must create a learning community where learning is valued.

Exactly how does the teacher accomplish the formidable task of teaching learning? A tremendous amount of planning is

essential, but there is more. Argyris and Schön (1980), Reid, Forrestal and Cook (1989), advocate that teachers must engage in reflection, critical thinking and evaluation of themselves as well as have students engage in the same, in order to direct their teachings in ways which will further facilitate learning. They must be honest in their self-appraisal, and work at improving themselves before they can hope to see improvements in the students. Attitude is vital! Bevis and Watson (1989) believe the teacher's attitude must be one which will convey the openness, care, and compassion that is so vital. In order to benefit from much needed support and constructive criticism, Schön (1987), Tishman, Jay and Perkins (1993) believe that teachers must look to themselves. This, the authors believe, positively influences and nurtures teaching skills and confidence. With this positive influence and nurturing teachers can feel free to try new techniques and let go of past inhibitions. Teachers can then release power to the student -- power to grow and power to learn, so their students will be liberated to embark upon their own learning journeys.

While many teachers strive to implement effective strategies to facilitate learning, a cooperative learning environment or true learning will not necessarily occur. Johnson, Johnson and Holubec (1994) believe it is imperative that teachers understand how to organise and operate learning strategies, be truly committed to the use of the strategies, and have students believe that the learning strategies are effective. They go on to state that careful planning by the

teacher is essential to ensure the effectiveness of the strategies as well as to ensure the new learning will augment what is already known by the students. Clear direction, adequate time, and encouragement need to be provided so students will be able to reach an understanding of material, reflect upon that understanding, and communicate it effectively to others.

While planning and structure are essential, it is important too, to avoid rigidness. Teachers must be open to new avenues of direction, and be able to let learning lead the way. This makes learning personal and enjoyable. It is an interesting interplay of beliefs, actions, behaviors, attitudes, and perceptions that determine the effectiveness of teaching, one that has no set answer (Argyris & Schön, 1980; Bevis & Watson, 1989; Reid, Forrestal & Cook, 1989; Schön, 1987; Sharan, 1994; Tishman, Jay & Perkins, 1993). The role of teachers in promoting and facilitating learning is complex. One strategy currently in use to aid the teacher in this role is cooperative learning and is discussed in the next section.

Cooperative Learning

Cooperative learning is a set of strategies for implementating the curricula within the classroom. The preferred teaching qualities, strategies, and roles mentioned previously are put into practice to improve the classroom environment. Some positive outcomes of cooperative learning are as follows: an improvement in self-esteem; increased use of positive social skills; insight; self-directedness; problem solving ability; augmented critical thinking; care and concern

for others; accountability; reflective powers; motivation; learning skills; tolerance, and achievement (Argyris & Schön, 1980; Cohen, 1986; Goodlad & Klein, 1970; Johnson & F. Johnson, 1991; Johnson & R. Johnson, 1991; Johnson & Johnson, 1889; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1988; Johnson, Johnson & Holubec, 1994; Schön, 1987; Slavin, 1983).

Cooperative learning is an instructional strategy which facilitates the student's journey of learning, acquiring wisdom, and becoming educated. It is defined by Johnson, Johnson and Holubec (1994) as "the instructional use of small groups that allows students to work together to maximise their own and each other's learning" (p. 3). The authors advocate the use of five essential components, without which cooperative learning strategies become less effective. They are: positive interdependence; promotive interactions; individual accountability; interpersonal and small group skills, and group processing (Johnson, & F. Johnson, 1991; Johnson & R. Johnson, 1991; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1994; Johnson, Johnson & Holubec, 1988).

Cohen (1986) has an approach to cooperative learning which she labels as heterogeneous groupwork. She believes it to be "an effective technique for achieving certain kinds of intellectual and social learning goals" (p. 6). Her prerequisites for effective groupwork require that conceptual thinking be required for the learning task and that resources such as intellectual skills, vocabulary, relevant information,

and properly prepared task instructions be given to or promoted within the group.

Slavin (1983) believes learning can occur cooperatively when it involves the following: cooperative behavior; cooperative incentive structures; cooperative task structures, and cooperative motives. Cooperative behavior, according to Slavin (1983), "refers to actual participation and co-ordination of efforts between two or more individuals" (p. 4). All cooperators communicate effectively to enhance the goal achievement of other cooperators.

Bevis and Watson (1989) have devised a cooperative type curriculum for nursing education. They refer to it as a caring curriculum, or an educative-humanistic paradigm. They define it as "the transactions and interactions that occur between student and teacher and among students with the intent that learning take place" (p. 190). This they believe is paramount to their paradigm. The new curriculum allows students and teachers to be equal partners in learning, and be supportive of this alliance. It encourages the abandonment of old styles and techniques of teaching and learning, and offers new methods for facilitating the creation of new curricular structures.

Bevis and Watson (1989) devised the caring curriculum to overcome the shortfalls of traditional nursing education. Their desire was to devise a way of graduating a professional and truly educated nurse, who had the skills and compassion to meet the needs of a changing and advancing world. They felt that a curriculum, or learning environment, which offered warmth,

empathy, caring, respect and dialogue, and which was emancipatory and educative, could alter the course of nurses as well as the nursing profession.

Cooperative learning environments have been shown to have a significant positive effect on interpersonal relationships, (Cohen, 1986; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1994; Johnson, Maruyama, Johnson, Nelson & Skon, 1981; Rogers, 1983; Slavin, 1983). First of all, cooperative groups must have interpersonal exchanges, which in turn lead to higher reasoning abilities, increased thinking strategies, and intellectual conflict. This conflict allows students to be exposed to alternate viewpoints, and provides them with the opportunity to examine the new viewpoints and the resulting environment. The problem solving abilities of these students can increase with this exposure, as well as with the collective problem solving abilities of the group (Cohen, 1986; Johnson, Johnson & Holubec, 1994; Slavin, 1983).

With increased interaction between group members, Johnson and Johnson (1991) propose that friendly ties, trust, increased acceptance and a supportive atmosphere develop. A meta-analysis of comparing the effectiveness of cooperative, competitive and individualistic learning among adult samples has demonstrated cooperative learning to be superior in cultivating social support than competitive or individualistic learning (Johnson & Johnson, 1987). Similarly, a study by Lew, Mesch, Johnson and Johnson (1986) involving four sixth grade socially isolated and academically deficient students, found that cooperative learning

situations where positive goal interdependence and academic and collaborative skills were employed yielded increased acceptance of the student with longevity and less frequent rejection.

Johnson and Johnson (1994) state that students at first develop tolerances for one another, followed by increased levels of liking. This liking of one another also holds true across perceived barriers such as ability, sex, handicap, ethnicity, race and task orientation and frequently eliminates them. Students work together, explaining, listening, monitoring, processing, and encouraging, while developing a caring attitude for and commitment to one another and to the group's success (Cohen, 1986; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1994; Johnson, Maruyama, Johnson, Nelson & Skon, 1981). Slavin (1983), claims these students are more likely to demonstrate cooperative and altruistic behaviors in their daily pursuits.

Cooperative learning classrooms have been shown to have a positive impact on the psychological health of students (Cohen, 1986; Johnson & Johnson, 1994; Johnson, Johnson & Holubec, 1994; Rogers, 1983). A study by Johnson, Johnson, Stanne and Garibaldi (1990), found that in cooperative groups where group processing took place, students felt there was an increased level of acceptance of themselves and other group members, and they felt more appreciated.

In cooperative classrooms, students may begin to feel liked and accepted by their group or their classmates, and believe their contributions are important and worthwhile,

resulting in increased levels of self-esteem, success and satisfaction. They begin to perceive others and themselves realistically and experience decreased levels of anxiety and stress, with greater effective coping abilities. The students experience emotional maturity, adjustment, trust and optimism. They can now devote more time and attention to learning and meeting educational goals.

Another important finding which has benefited students involved with cooperative learning, is that of higher levels of achievement, performance, and learning. Students in a cooperative learning situation have been found to spend more time on task (Cohen 1986; Johnson & Johnson, 1994), and make more positive contributions for their own, other's, and their group's success (Johnson, Johnson & Holubec, 1994). The rates of absenteeism and attrition decrease as students' psychological health improves, as their attitudes toward the subject area improve, as they develop increased commitment toward learning and educational goals, and as feelings of responsibility toward the school improve.

Studies have indicated that cooperative learning promotes higher levels of reasoning, thinking, problem solving and critical thinking, than do competitive or individualistic learning. This in turn leads to increased productivity, increased performance, increased achievement, increased retention, and most importantly, increased learning (Johnson & Johnson, 1994; Johnson, Johnson, & Holubec, 1994; Johnson, Maruyama, Johnson, Nelson & Skon, 1981; Slavin, 1983).

A study done by Yager, Johnson and Johnson (1985) found that high-, medium-, and low-achieving students learning in cooperative groups were consistently found: (1) to achieve higher scores than students working individually; (2) to demonstrate a significantly greater group-to-individual transfer effect, and (3) to have significantly greater retention when oral discussion was structured within the cooperative groups as opposed to unstructured or individualistic. Similarly, in a study by Vasquez, Johnson and Johnson (1993), where 13 U.S. Navy Air Traffic Controller trainees were assigned to cooperative or individualistic learning conditions and compared, those from the cooperative learning conditions were found: to have greater achievement and retention; a higher level of group to individual transfer, thus enabling the trainees to transfer knowledge to real situations; to have no failures, therefore reducing attrition; to do a greater amount of reading and explaining to groupmates; and to have the perception of having greater peer support and encouragement for learning.

It is clear then that cooperative learning, when effectively developed, implemented, and evaluated within the classroom by teachers, can have a tremendous impact upon the atmosphere and the progress of the class. This teaching-learning strategy requires a lot of intuition, common-sense, and skill on the part of teachers, so that teachers can assess progress or hindrances to class, group, or individual learning. Teachers must be able to recognise and diagnose areas of difficulty, and effectively plan to overcome these difficulties,

whether long-term or spontaneous, and implement these plans. Teachers must be able to evaluate their teaching abilities, class, group, or individual learning and abilities, and move forward from there. Teachers must do all of this, and at the same time involve student learners in this process, so that they may gradually take on this role for themselves as they grow and gain confidence in their own abilities. The research on the positive outcomes of cooperative learning was discussed throughout this section. The next section will focus on initiating educational change so that frameworks such as cooperative learning can be implemented.

Educational Change

Once the decision has been made to adopt a new teaching strategy within the curriculum, and in this case a cooperative learning strategy, the teacher must examine which aspect(s) of his or her practice must change. Presumably the teacher has made the commitment to innovate teaching strategies out of dissatisfaction with an old style and/or with outcomes. Fullan and Stiegelbauer (1991) state, "the purpose of educational change is to help schools accomplish their goals more effectively by replacing some structures, programs, and/or practices with better ones" (P. 15). They go on to state, "Change must always be viewed in relation to the particular values, goals and outcomes it serves" (p. 8). Eisner (1991) believes that teachers must first determine the priorities of the school and then find a way in which to produce an environment which is compatible with those priorities.

While it is easy to describe what one would like to change, the number of changes required before the outcome is positively effected are multitudinal. Fullan and Pomfret (1977) state, "curriculum change consists primarily of five dimensions: changes in (a) subject matter or materials, (b) original structure, (c) role/behavior, (d) knowledge and understanding, and (e) value internalisation - all of these vis-à-vis a particular innovative idea or development" (p. 361). Fullan and Stiegelbauer (1991) similarly describe three areas of change when implementing a curricular innovation: "(1) the possible use of new or revised materials...(2) the possible use of new teaching approaches...and (3) the possible alteration of beliefs" (p. 37). They also contend the outcome cannot be affected unless there is a change in practice encompassing all areas.

Before any change can be implemented, there is much learning involved. Fullan and Stiegelbauer (1991) describe teachers as gaining new "social learning" through new meanings, new behaviors, new skills, and new beliefs" (p. 77). Fullan (1993) describes teachers who act as change agents as "career-long learners" (p. 13). Without continual learning, there would not be the stimulation for new ideas, new meanings, new skills, or new beliefs. Fullan and Miles (1992) state that only through learning can teachers commit to and take ownership of the new concepts which they wish to embrace.

The Rand Change Agent Study, a federal implementation project of the 1970's, provided researchers with a number of

valuable insights on strategies required to enhance the effectiveness of change efforts. Included are adequate time, a solid support system, collaboration, effective feedback, staff development, teachers and administrative commitment, clear goals and objectives, teacher participation, and quality leadership (Brown & Rose, 1985; Fullan & Pomfret, 1977; Hord & Huling-Astin, 1986; McLaughlin & Marsh, 1978).

Fullan and Stiegelbauer (1991) believe that most changes take greater than two years to be implemented and three to five years to become institutionalised. They say major restructuring can take between five and ten years.

It is easy to see why Fullan (1982) stated, "*change is a process, not an event*" (p. 41). Teachers need time to learn new ideas and methods, to reflect, and to internalise these ideas and methods and put them into practice (Hord & Huling-Astin, 1986). For this reason, facilitator, collegial, and administrative support and feedback are essential and are closely related to successful change. The support system of teachers involved in change can provide them with leadership, encouragement, be a sounding board for new ideas, keep up morale, share ideas, provide ongoing, effective feedback, provide incentive, and model and teach new ideas and skills (Brown & Rose, 1995; Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

McLaughlin and Marsh (1978), found that the positive attitude of the building and district administration regarding the change positively influenced the change outcomes. Likewise

having a good working relationship between teachers within the school positively influenced the change occurring and was correlated to teacher participation. This participation resulted in teachers having a "sense of ownership" of the change (p. 80). The quality of leadership of those assisting with the change effort was critical to its successful implementation and continuation. The more positive the atmosphere, the working relationships, and the commitment, the more likely effective collaboration can occur. Fullan (1993) states, "there is a ceiling effect to how much we can learn when we keep to ourselves" (p. 14). Fullan (1991) states, "alliances provide greater power, both of ideas and of the ability to act on them" (p. 349). The importance of collaboration in society as well as in change efforts underscores its critical place in the change process.

Staff development is another vital link in the change process, having a substantial effect on the change outcome. The failure to recognise its importance throughout the change process can lead to numerous problems. Research has demonstrated clearly that effective staff-development not only involves initial learning sessions, but mandates continued follow-through in the form of support, learning and feedback throughout the change process (Fullan & Stiegelbauer, 1991; Guskey, 1990; Hord & Huling-Astin, 1986; McLaughlin & Marsh, 1978).

Another area influencing the outcome of the planned change process is that of having clearly defined goals and objectives.

The clearer and more specific the plans for the innovation, the greater the likelihood of achievement both on the part of teachers and students (Fullan & Pomfret, 1977; McLaughlin & Marsh, 1978).

The many factors involved in the change process all have a dramatic influence on each other. To eliminate one or more is to potentially risk the success of the outcome of the change (Fullan, 1991; Fullan, 1993; Fullan & Pomfret, 1977; Fullan & Stiegelbauer, 1991; Guskey, 1990; Hord & Huling-Astin, 1986; McLaughlin & Marsh, 1978). The success of educational change is dependant upon numerous factors, each playing a role throughout each phase of the change process. The next section discusses the curriculum development phase of educational change.

Curriculum Development

Role of Philosophy in Practice.

Teachers can become involved in a change process through a variety of ways. Whether the change be imposed upon them or self-initiated, each teacher's beliefs regarding teaching and learning will have an effect on how he or she approaches change. Brown and Rose (1995) found that previous experiences with learning and teaching influenced a teacher's philosophy and practice, involving all aspects of developing, implementing, and evaluating the curriculum. Mann (1990) stated that the teacher's entire background, including cultural and personal traits, affect philosophy and practice. Bird (1986) states very succinctly, "One's habits in the classroom are likely to seem

like manifestations of one's style, personality, or philosophy" (p. 57).

The Role of Professionalism. Who the teacher is will have a profound impact on any changes made within the classroom. Professionalism is a key feature in the epistemological beliefs and pedagogy of the teacher. Popkewitz, Tabachnick and Wehlage (1982) define a profession as "a special occupation licensed to act upon clients in ways not permitted by other forms of social interaction" (p. 17). The teacher, incorporating practices from his or her profession with beliefs and previous experiences, act upon those to create his or her own professional ideology and unique methods of practice.

A study by Popkewitz, Tabachnick and Wehlage (1982), investigated six schools which had three distinct teaching styles and conceptions of knowledge: technical, constructive, and illusory. The study found that although similar teaching practices were utilised by all teachers, very different definitions of "learning, individualisation, teacher accountability, and pupil responsibility were created (p. 163). It was found that for each category of school, there were different purposes with varying arrangements of "social relationships and authority" (p. 163). The researchers found that the professional ideology underlying each type of school, its unique community, and the perceptions regarding the purpose of schooling all influenced the teachers to practice as they did. They found that the teachers geared their practice to the type of student and to the particular community being taught.

Fullan and Stiegelbauer (1991) have outlined three considerations for planning a curriculum: Relevance, readiness, and resources. "*Relevance* includes the interaction of need, clarity of the innovation...and utility" (p. 63). "*Readiness* involves the school's practical and conceptual capacity to initiate, develop, or adopt a given innovation" (p. 63). Finally, the authors refer to *resources* as "the accumulation of and provision of support as part of the change process" (p. 64). These three factors are critical to the adoption of and later the implementation of any new curricular innovation. Each teacher will approach and regard these factors differently in the development of a new innovation. The development of a new innovation, or teaching-strategy is one phase of the educational change process that is dynamic and dependant upon both the innovator and the user. The next section discusses how the development phase of curricular change may be adhered to or adapted according to individual need.

Curriculum Implementation

Once the curricular innovation has been developed and all resources are in place, the teacher faces the task of implementing the new curricular innovation. Again, there must be a continuing need for the change, with the key players prepared and resources available (Fullan & Stiegelbauer, 1991). Two approaches to implementation are examined. They are fidelity and mutual adaptation.

Fidelity. There are fundamentally opposing views to implementation. One is referred to as the "fidelity

perspective" (Fullan & Stiegelbauer, 1991, p. 38). By this it is implied that the curriculum will be implemented exactly as the developers intended it to be. Research in the past has focused on gauging the extent to which the change is implemented as it was supposed to be, and to determine "the factors which facilitate or hinder implementation as planned" (Snyder, Bolin & Zumwalt, 1992, p. 404). The fidelity perspective operates under the assumption that "the desired outcome on curricular change is fidelity to the original plan" (Synder, Bolin & Zumwalt, 1992, p. 404).

Mutual Adaptation. Another view of implementation is known as Mutual Adaptation. This is a term that was put into use following the Rand Change Agent Study (Snyder, Bolin & Zumwalt, 1992). The findings of the study demonstrated that the outcomes of any change was critically dependant upon how it was implemented and not on the content as previously thought (Berman, 1981). Snyder, Bolin and Zumwalt (1992) state "mutual adaptation assumes that implementation should involve adjustments in needs, interests, and skills of participants and organisations as well as project goals and methods" (p. 412).

Saskatchewan Education (1992) refers to mutual adaptation as "The Adaptive Dimension". They state:

> The Adaptive Dimension refers to the concept of making adjustments in approved educational programs to accommodate diversity in student learning needs. It includes those practices the teacher undertakes to make

> curriculum, instruction, and the learning environment meaningful and appropriate for each student. (p. 1)

Saskatchewan Education further tells how the teacher is related to these adaptations:

> Adaptations to one or more of these variables are made in accordance with strengths, needs, and interests of the learner. It is the teacher who assesses the needs and strengths of the learner. It follows that the teacher makes the appropriate adaptations based on the assessment and provides the most educational program for each student. (p. 14)

These definitions of mutual adaptation follow along with those of other researchers. They all include the notion of being flexible with the plan for implementation (Fullan & Stiegelbauer, 1991; McLaughlin & Marsh, 1978; Snyder, Bolin & Zumwalt, 1992). Bird (1986) states that the goal of implementation is "to create the conditions in which the design can be realised" (p. 48). The Rand study supports this claim and suggests that adaptations between the user and the plan can most often lead to successful change outcomes (Fullan & Pomfret, 1977; McLaughlin & Marsh, 1978).

A Canadian Teacher summed up implementation as follows: "Implementation involves looking at our beliefs about education, the learning process and the academic disciplines we teach" (Sapon-Shevin & Schniedewind, 1992, p. 33). This statement by the teacher reflects on how each teacher is influenced in different ways and would thus approach change differently than

would a colleague. Fullan and Miles (1992) accurately described the process of implementing change as "a journey, not a blueprint" (p. 749). While the success of an innovation is dependant upon its effective implementation, evaluation is critical. The literature related to curriculum evaluation is presented in the next section.

Curriculum Evaluation

Knowing how and what to evaluate during the change process is difficult (Sapon-Shevin & Schniedewind, 1992), and often not done correctly (Fullan & Stiegelbauer, 1991). Fullan and Stiegelbauer (1991) state that the evaluation process should not focus only on the outcomes, but on the process of the change itself.

Hall and Loucks (1977) state that the person implementing the change is the one who is most rigorously evaluated. This provides data on exactly how the innovation is being used and, to an extent, the effect it has. The use of a well-trained, objective observer to analyse the teacher can assist in providing a subjective evaluation of the implementation process (Fullan & Pomfret, 1977; Hord & Huling-Astin, 1986).

Hord and Huling-Astin (1986) believe evaluation should regard "the perceived quality of the programs being implemented" (p. 98), and "improved pupil achievement" (p. 103). Leithwood (1986) lists three areas of concern which should be monitored. They include, the level of knowledge and skill of the teacher, the motivation of the teacher, and the adequacy of the support system and resources.

Peters (1987) lists the following as categories to evaluate in the implementation of change:

1. simplicity of presentation,
2. visibility of measurements,
3. everyone's involvement,
4. undistorted collection of primary information,
5. the straightforward measurement of what's important, and
6. achievement of an overall feel of urgency and peripheral improvement. (p. 484)

While broad categories can be developed to suit the needs of all curricular evaluation, more specific concepts need to be explored in the evaluation of specific curricula. Some areas of evaluation related to cooperative learning will be examined in the next section.

Evaluation of Cooperative Learning. When looking at a cooperative learning framework, one must examine the salient features in order to evaluate it. Since there is such emphasis on social skills, the use of these social skills in the relationships between student and student, and student and teachers should be evaluated. This would include examining the climate of the classroom, as well as the sharing and caring that occurs. The evaluator would also want to examine how the cooperative learning framework enables students to accept control and take responsibility for their learning, and examine the degree to which students are able to transfer their learning and apply it to other issues. Finally, the evaluator would want

to examine the cooperative structures used and their effect on the students (Sapon-Shevin & Schniedewind, 1992), as well as the five requisites of cooperative learning which are positive interdependence, promotive interaction, individual accountability, interpersonal and small group skills and group processing (Johnson, Johnson & Holubec, 1994).

Despite the popularity of cooperative learning, the number of workshops given and the multitude of manuals written about it, cooperative learning is not successfully implemented in many classrooms. Only 5-10% of cooperative learning workshop participants continue to use cooperative learning as a teaching strategy if effective coaching and support are absent (Kohn, 1992). Many teachers dilute cooperative learning in ways that suit themselves, and many do not attend to the teaching of social skills and the creation of a "caring classroom community" (Kohn, 1992, p. 43).

Thus far, current theory regarding learning, cooperative learning, and educational change has been discussed. The next section will concentrate on the conceptual framework, The Implementation Perspective (1983), and how it is organised under the three questions guiding the research.

Conceptual Framework

Implementation Perspective.

The conceptual framework used to guide this study was developed from the Implementation Perspective (Fullan, 1983). It was chosen as a way to effectively evaluate curricular innovations for several reasons. The Implementation Perspective

assists in "determining the degree of implementation" and by "explaining the degree of implementation" (p. 215).

The first task which presents itself in evaluating program implementation is "determining the degree of implementation" (Fullan, 1983, p. 216). Figure 1 depicts the elements of planned change. Fullan (1983), describes the figure as follows:

> Implementation (box C) is a means of achieving certain intended outcomes (box D). If the outcomes are not achieved, there are two logical explanations. a) the model is not up to the task, i.e., the theory or model is inadequate, or b) the model was not implemented correctly....whether or not a model is implemented depends on certain planned (strategic) and unplanned (contextual) factors operating in the situation (box B)....the question of determining the degree of implementation...involves defining the change (box A), and assessing its degree of implementation (box C). (pp. 216-217)

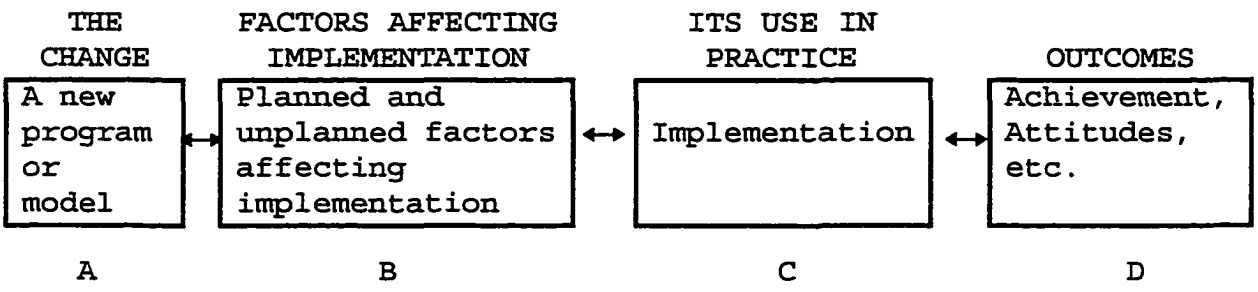

Figure 1. Elements of planned change.

In comparing Fullan's descriptions of Figure 1 to the "Adoption of a Cooperative Learning Teaching Strategy in a

Bachelor of Science in Nursing Course:, the researcher examined the development, implementation, and evaluation of the new teaching-learning strategy within the curriculum. Many factors, affective, psychomotor, personal, professional, and situational, were examined. Box A examined the development of cooperative learning for the senior BScN course. Box B examines the many factors influencing the change process. Box C examines the "how" of implementation, and Box D examines the final outcomes related to the course, the teacher, and the students as each relate to cooperative learning.

Defining the change is described by Fullan (1983) as a conceptual question and examines "what aspects of current practice would change, if this program were to be used effectively?" (p. 217). Four kinds of change which can be utilised to enhance the attainment of educational outcomes are listed as follows:

1) possible use of new *materials*

2) possible changes in *structure*

3) possible use of new *teaching approaches*

4) the possible incorporation of new or revised *beliefs* (Fullan, 1983, p. 217).

Assessing the degree of implementation is described as a methodological question by Fullan (1983), and is made up of two phases: "1) defining/describing in specific terms the essential components of the innovation or model...; 2) measuring actual practice to determine how it compares with intended practice (p. 219). The data derived from this section would be utilised to

analyse the question "How did the professor develop cooperative learning strategies?"

The second task in evaluating program implementation is "explaining the degree of implementation" (Fullan, 1983, p. 221). Table 1 outlines four classes related to implementation. These classes in Table 1 are described by Fullan (1983), as an augmentation of box B in figure 1. All of these have a direct effect upon the degree of change in practice which occurs, which then decides student achievement and other outcomes.

Table 1

Factors Related to Implementation

(a) Attributes of the program/model
- Clarity
- Complexity
- Scope
- Quality of Materials

(b) Implementation strategies
- Staff development
- Monitoring and feedback

(c) District and school factors
- Nature of adoption decision
- District administration
- principal
- teacher-teacher relations

(d) Extraneous factors

(Fullan, 1983, p. 222)

The factors related to implementation (Box B) can be analysed under two of the questions guiding research. The first is "How did the professor develop cooperative learning

strategies?" and the second is "How did the professor implement cooperative learning strategies?"

In examining these factors and related variables one can determine the effectiveness of a planned change strategy, as well as possibly anticipating and eliminating potential problems. The conceptual literature related to these factors has been presented in the literature review. It is the assessment and evaluation of
these factors which determine and explain the degree of implementation.

In assessing the degree of implementation, one examines the use of the model in practice (Box C). The data from this section is also analysed under the second research question, "How did the professor implement cooperative learning strategies?"

The remaining task in the Implementation Perspective is to evaluate the outcomes found in Box D (Fullan, 1983). The data gathered in this section can be analysed and used to answer the final research question, "How did the professor evaluate cooperative learning in the classroom?"

Summary

This chapter examined the literature related to current learning theory, educational change, and the Implementation Perspective (Fullan, 1983) as the conceptual framework. Specifically, current learning, teacher's roles, and cooperative learning. Educational change examined the development,

implementation and evaluation of curriculum and cooperative learning.

Chapter Three

Research Design and Methodology

Introduction

In Chapter Three, the design of the research study sampling procedures, site selection, and the method for obtaining informed consent of the participants are presented. The final section outlines procedures for collecting and analysing data.

Design

This study took place over a period of approximately four months. The professor and the researcher collaborated on a teaching-learning design for a senior Bachelor of Science in Nursing (BScN) course at an Ontario University. Together they developed a course syllabus outlining strategies and rationale for cooperative learning as well as course expectations, and decided upon course content and presentation. The professor and researcher identified learning needs related to cooperative learning and its implementation, so they could be addressed prior to the beginning of class.

The cooperative learning strategies were implemented by the professor in the senior BScN course, which ran the first six weeks of the fall semester for two-three hour classes per week. The researcher was present for the classes over the six week period for the purpose of observing and taking anecdotal records. The researcher also met with the professor for approximately one hour after each class to reflect and discuss how cooperative learning was facilitated in the class.

A large portion of the course was delivered using cooperative learning strategies, utilising both formal as well as informal cooperative learning strategies. The cooperative learning strategies which were chosen included the following or some variation thereof: Jigsaw; Peer Editing; Drill-Review Group; Focus Trios; Turn to your Neighbour; Inclusion Activities; Concept Learning Exercises; Think-Pair-Share-Square; icebreakers and anything else the professor felt would facilitate learning.

The cooperative learning strategies, while used as teaching-learning strategies, were also an integral part of the curriculum, which had a holistic emphasis, focusing not only on a method of delivering content, but as a basis for discovering and developing meaning, awareness, caring, compassion, and social skills.

Sampling

The professor observed in this case study was a volunteer selected through purposeful typical case sampling (Patton, 1990). It was felt that the professor's experiences with the process of implementing cooperative learning strategies within the curriculum would typically illustrate the process of others who wished to implement cooperative learning in their classrooms.

The professor was considered to be a typical case within the school of nursing due to the length of teaching experience, and having the desire to bring change to the classroom. The professor had taught nursing for 15 years at the university

level and had expressed an interest in improving teaching expertise, especially with the use of cooperative learning strategies.

The students enrolled in the senior BScN course were randomly assigned to cooperative base groups which were heterogeneous in ability, sex, race, and culture, wherever possible. The students who were selected for data collection were fourth year BScN students enrolled in the course, who signed a consent form, handed in their learning questionnaires (Appendix C), and agreed to an interview (Appendix H). These students made up a cross section of the class and the base groups. All subjects were assigned identification numbers to maintain anonymity.

Site

The location for the implementation of cooperative learning strategies within the senior BScN course was determined by the university. The location for data collection was within the chosen classroom through the use of videotaping, learning journals, questionnaires, and anecdotal record keeping. The location for the debriefing following each class took place in a quiet area which afforded some privacy.

Informed Consent

All participants enrolled in the senior BScN course were informed by the researcher, during a short information session, about the purpose, the design, and the proposed implications of the study. It was emphasised that their participation was completely voluntary and that they could feel free to withdraw

at any time with no bearing on their evaluation in their course. They were then given a letter (Appendix A) which outlined the purpose, design, and the proposed implications of the study. They were asked to sign the form if they understood the purpose of, the reason for, and their willingness to participate in the study, and if they wished to be videotaped. Once this was completed, their names were assigned identification numbers to guarantee their anonymity.

Data Collection Procedures

The data for this case study was collected in the following manner:

1. The professor kept a learning journal where beliefs and reflections related to the preparation, implementation, and evaluation of the course, facilitation of the course, content and structures of the course, and student reactions to the strategies utilised within the course were outlined. Also the professor analysed the implementation of cooperative learning strategies throughout the course.

2. The professor completed a questionnaire during the planning stages of the course. The questions were developed after completing a review of the literature. The professor assisted the researcher in determining the value of the questions. All questions were open-ended to ensure that the respondent would have the opportunity of providing all possible thoughts, feelings, and experiences (Patton, 1990). The questionnaire outlined personal beliefs, strengths, weaknesses, and level of support related to the professor's teaching and

learning of cooperative learning strategies (Appendix B). It was determined that validation of the questionnaire was not necessary due to the small scale of the study.

3. The students selected to participate in the study were asked to complete a questionnaire at the beginning of the course and at the completion of the course. The topics covered were learning, group interaction and level of satisfaction (Appendix C). The questions reflected the literature and were open-ended. They were developed by the researcher with input from the professor. Again, it was determined that validation of the questionnaire was not necessary due to the small scale of the study.

4. The researcher kept anecdotal records of the professor's strengths, weaknesses, and presentation. They included the professor's communication of expectations to the groups for cooperative learning strategies, problem solving abilities, encouragement provided to the groups, and the use of the cooperative learning framework within the class.

5. The researcher observed the groups to determine how well they were functioning at meeting the requisites for cooperative learning strategies: positive interdependence; individual accountability; interpersonal and small group skills; face to face interaction, and group processing.

6. The students who participated in the study completed a brief evaluation form which had been published previously by Reid, Forrestal and Cook (1982). Its purpose was to aid them in processing how well their groups functioned, and how well each

member contributed to the group's success during weeks two and six (Appendix D).

7. The students who participated in the study completed a brief evaluation form which had previously been published by Johnson and Johnson (1984). Its purpose was to aid them in processing how well they as individuals worked in a group and how they contributed to the group's success during weeks two and six (Appendix E).

8. Videotaping of one cooperative learning lesson was conducted during week two and was analysed by both the professor and the researcher. The professor and researcher first outlined successes and weaknesses of the teaching and then viewed the video. Both then re-evaluated and reflected upon the cooperative learning situation (Appendix F). The technique was one determined by the researcher with assistance from the professor and reflected the literature. It was determined that validation was not necessary due to the small scale of the study.

9. The researcher and professor met in a private area for approximately one hour after each class and again six weeks after the completion of the course to reflect upon the learning, teaching, and direction of the class, as well as the effectiveness of cooperative learning within the classroom. An outline was used as a guide for the discussion (Appendix G). The outline was developed by the researcher. It was determined that validation of the outline was not necessary due to the small scale of the study.

10. The student-participants in the study were asked to take part in a short interview at the end of the course. The interview was conducted over the telephone and tape recorded with each student's permission. This was done to ensure accuracy of responses and to avoid taking too much of each student's time (Patton, 1990). They were asked open-ended questions in order to determine their thoughts, reflections and beliefs about cooperative learning and its application to the senior BScN course (Appendix H). The interview questions reflected the literature and were developed by the researcher with input from the professor and the thesis supervisor. It was determined that validation of the interview was not necessary due to the small scale of the study.

Data Analysis

The data collected from the case study were analysed according to the elements of planned change as described by Fullan (1983) in his Implementation Perspective. The four elements are the change, factors affecting implementation, its use in practice, and outcomes. The data collected from these four elements served to allow the researcher to "determine the degree of implementation" (p. 216), and to "explain the degree of implementation" (p. 221).

The first element of planned change, "the change" was broken down into four sub-sections.

1) use of new *materials*
2) changes in *structures*
3) use of new *teaching approaches*

4) incorporation of *new or revised beliefs.*

(Fullan, 1983, p. 217)

The second element of planned change examined the factors related to implementation which were previously described in Table 1. These factors were:

(a) Attributes of the program/model

(b) Implementation strategies

(c) District and school factors

(d) Extraneous factors (Fullan, 1983, p. 222)

The data collected under "its use in practice" was used as an assessment of the implementation and was analysed according to a description of "the essential components of the innovation" and the measurement of "actual practice to determine how it compared with intended practice" (Fullan, 1983, p, 219). The final element examined the outcomes of the planned change process. Data were analysed to determine if the model was adequate and if it was correctly implemented.

Once the data were collected and coded according to the four elements of planned change, it was used to answer the three broader questions which guided the research. These questions were:

1. How did the Professor Develop Cooperative Learning Strategies?

2. How did the Professor Implement Cooperative Learning Strategies?

3. How did the Professor Evaluate Cooperative Learning Strategies in the classroom?

Triangulation was utilised as a means of strengthening the validity of data collected and analysed. The method of triangulation employed in this study was data triangulation which involved the use of multiple methods of data collection to aid in strengthening the soundness of the model. The methods employed were observation, questionnaire, discussion, videotaping and interview. The data collected through each method had the potential to reinforce data collected through the other methods when similar patterns, trends, and linkages occurred (Patton, 1990).

Patton's (1990) process for data analysis was employed, with steps set forth as follows:

1. Go over notes,
2. Organize the data,
3. Look for patterns,
4. Check emergent patterns against the data,
5. Cross-validate data sources and findings, and
6. Make linkages among the various parts of the data and the emergent dimensions of the analysis. (p.379)

The first step of the process was to transcribe and review the notes from the anecdotal records. The taped discussion with the professor and the interviews were also transcribed and then replayed so as to develop a sense of meaning and flow. The learning journal and questionnaire which were completed by the professor were reviewed. The questionnaires of the students were reviewed and cross-referenced according to 1) student and 2) chronology. Copies of all data were made for safekeeping.

The second step in the analysis of the data was to organise the data. The anecdotal records, transcripts and interviews were reviewed to ensure completeness and to search for any incongruities. The questionnaires were also reviewed for completeness.

The third step in the analysis of the data was to note any patterns within each data source. When the patterns were identified, the data was coded, and the appropriate data was documented under each pattern heading (Table 1). As well, the data were examined to determine the effect of the cooperative learning strategies on the students.

The fourth step in the analysis of the data was to check emergent patterns against the data. These patterns were reviewed to check for consistency. The coded data and patterns were then reviewed and cross-referenced against each source of data to determine common themes and validity.

The final step in the analysis of the data was to establish connections between the information obtained from the various data sources and the common threads which emerged from the analysis. This process, although arduous, enabled the analysis to flow logically.

Summary

In this chapter the process utilised in the research design and methodology was reviewed. It included the areas of design, sampling, site, informed consent, data collection procedures, and data analysis.

Chapter Four

Presentation of the Data

Introduction

In Chapter Four, the data collected through discussions, questionnaires, a journal, evaluation forms, interviews, and anecdotal records are presented. The first section describes the sample population and the study site. The second section focuses on the process of curriculum development, implementation, and evaluation. Included in implementation and evaluation is data from student work, questionnaires, evaluations, and interviews.

Description of the Participants

The professor involved in the study was a Registered Nurse with the designation of Associate Professor. The professor had been teaching nursing at the university level for fifteen years, and had been actively engaged in the pursuit of more effective teaching strategies.

The student-participants involved in the case study were enrolled in a fourth year BScN course and consented to take part in the study through observations, questionnaires, videotaping and interviews. Of the 39 students enrolled in the course, 36 were females (92.3%), and 3 were male (7.7%). Three (7.7%) of the students were post-basic students who had previously achieved an R.N. designation. The remaining students were basic students. Not all students filled in their age categories, but those that were completed demonstrated that one student was less

than 20 years (2.5%), one student was between 31 and 35 years (2.5%), and 17 were between 21 and 25 years (43.5%). Eight of the 39 students chose not to participate in the study.

The gender, level of preparation, and age of the respondents for the various questionnaires and interviews are presented in Table 2. It demonstrates the distribution of the students taking part in the study. Responses from two of the three males were included, but responses from post-basic students were not in the sample. Observations were made of the post-basic students in the classroom. There were no obvious differences between them and their classmates.

Description of the Site

The site where the senior BScN course took place was in a dark, windowless, cement, trapezoid-shaped room. There was one blackboard on each of the three "front" walls, with a door on either side of the room. Posters pertaining to Cooperative Learning were hung on the wall. There was a large table at the "front" of the room, equipped with an overhead projector and a podium. The students' desks were moveable, and were found to be arranged in three long rows across the "back" of the classroom at the beginning of each class. There were many more desks than students, making the reorganisation of desks during cooperative learning activities somewhat cumbersome.

How did the Professor Develop Cooperative Learning Strategies?

In examining how the professor developed cooperative learning strategies, Boxes A and B of the Implementation

Table 2
Frequencies and Percentages of Respondents by Gender, Level of Preparation, and Age.

n = 11

Learning Questionnaire (Appendix C):

Variable	Frequency	Percent
Gender		
male	--	---
female	11	100
Preparation		
basic	11	100
post-basic	--	---
Age		
<20 years	--	---
21-25 years	11	100
26-30 years	--	---
31-35 years	--	---

n = 17

Week 6 Learning Questionnaire and Cooperative Learning Interview:

Gender		
male	2	11.8
female	15	88.2
Preparation		
basic	15	88.2
post basic	--	---
no response	2	11.8
Age		
<20 years	1	5.9
21-25 years	15	88.2
31-35 years	1	5.9

Perspective (Figure 1) were examined (Fullan, 1983). Four aspects were examined and included the "use of new materials",

"changes in structure", "new teaching approaches", and "new or revised beliefs" (Fullan, 1983, p. 217). The factors affecting implementation also played a role in the development phase.

The professor developed cooperative learning strategies for the classroom with all of the personal goals and philosophy of teaching and learning in mind. It was imperative to the professor that these be reflected in the learning situations provided within the classroom whether they be of a cooperative or traditional nature.

Teaching and Learning Philosophy. One aspect of curriculum development which was repeated and reinforced, involved the professor's own teaching and learning philosophy. The professor in this study had spent a teaching career of 15 years reflecting upon and processing what it meant to be a teacher--a good teacher. The professor believed in the importance of congruency, of having one's practise reflect one's beliefs and personal assumptions, and therefore worked at identifying the beliefs, values and personal style which made this professor unique. The professor viewed teaching and learning as being tied to one another, "true teaching cannot occur without learning having taken place." This professor provided definitions of teaching and learning which offered a glimpse into the personal practise of this practitioner.

> Learning is not what a teacher tells you or what's in an outline...it is what catches your interest....It is being provided with the opportunity of hearing different things and exploring them on your own. Learning is lifelong....

> It is reflecting on old things and conceptualising them in new ways. Learning is an evolving process.

The professor described teaching in the following manner, "Teaching is guiding and facilitating the learner in the pursuit of knowledge. It takes on many tasks and changes according to the student, the content and the environment."

The professor utilised these foundations of personal beliefs to guide personal teaching-learning experiences.

The professor stated, "I don't know how to teach learning," but even so identified important concepts, without which the student's ability to learn would have been impaired. The first concept the professor advocated was that of a safe learning environment. Here the professor believed it was imperative that students feel free to explore, share, create and expand ideas, test thoughts and actions, contribute ideas, reflect and make meaning. The environment had to have structure, yet be safe from physical harm. It had to enable students to build confidence in themselves and in their abilities as learners and as nurses. An excerpt from the professor's pre-questionnaire described this.

> A good learning environment is one in which the student can feel free and comfortable to learn. I think it should have structure, should be safe from physical and psychological harm, should be peaceful yet stimulating to the senses. It should stimulate the individual to learn, not be so stimulating that the individual is in sensory overload.

The second concept important to the beliefs and practise of this professor was that of exposing students to varied learning alternatives. It was important to the professor that each student's preferred method of learning be represented in the many opportunities for learning. An excerpt from the professor's learning journal stated, "...students have a variety of learning styles. I need to ensure that I vary the teaching methods to keep everyone tuned in." A similar statement made during a debriefing session further emphasises the professor's belief in the necessity of providing varied learning models:

> Who knows how people learn and maybe the best thing we can do is expose them to a variety of learning alternatives- and for some of them, they might think, "Wow, this is really it. I like having the opportunity..."

The professor believed a varied environment enhanced the interest, fun and excitement in learning, and possibly increased students' motivation to learn.

An excerpt from the professor's pre-questionnaire illustrated this point.

> ...to have the course interesting and stimulating and fun for the students. I want them to know the content and have fun learning it and have learned more about themselves as learners and about their classmates as individuals.

The professor went on to state this:

> I guess that's part of what a good teachers is in terms of being aware of what the needs of the students are, what

> the feelings are in the classroom as opposed to being oblivious to it.

The professor's goals for teaching a course were directly related to the teaching and learning process. The expectation was that the professor's goals would be clarified with the students' goals. This professor expected that the class format would teach the students a model for learning, and thus expected that learning would take place. The expectation for the students was to emerge from the course having gained knowledge and information, having acquired insights, and having experienced a behavioral change as a result of learning. An excerpt from a debriefing session illustrated this.

> I think there are levels. I think one is going to be the behavioral change, which has nothing to do with the content of the program but the learning process they've gone through... And there'll be another core and that'll be content...and they'll come out knowing...that they've got this really strong base for other pieces of information-that's what I hope for.

Another expectation of the professor was that the professional component of the program be carried through and be reflected in the course work and in the expectations for the students. During a debriefing session the professor stated that a goal was to have students "...identifying with the profession. This is a professional course...all the things that are really important in terms of the professional component--not the practice component...they have to know they have to speak

knowledgeably." An example illustrating this statement would be the professor's desire for the students to be knowledgeable about and active in the professional bodies concerned with nursing.

The professor believed there were many responsibilities included in teaching. The professor believed teachers had to be enthusiastic about learning, and stated, "a teacher should generate energy and enthusiasm about teaching and learning. The professor believed teachers had to expose students to a variety of opportunities for learning and reflecting; provide feedback; be honest; be sensitive to the needs of the students; be sensitive to student issues; be flexible; be caring; be available to listen to the students; be respectful; be fair; be confident; be organised; provide clear and adequate direction; provide a safe learning environment; be knowledgeable and be a role model for learning and for the nursing profession. The professor stated a teacher had to have, "an ability to work with people, have enough self-esteem to be able to share leadership within a classroom, yet keep the class moving in a positive direction". An example of how the professor viewed personal strengths in this area is illustrated in an excerpt from a debriefing session.

> I think that sometimes I'm the expert and I think there are other times that I'm the facilitator. Again I think you take on a variety of roles. I think I recognise that students need to feel confident that the teacher knows what he or she is doing, and has some sense of what the

> day looks like.... I think students need to feel confident that the information they're getting is accurate, current and up to date. The flip side is that the teacher has got to recognise there have been mistakes made, and where there's other information in the class and someone else has it...that you welcome the opportunity to share.

The professor believed that students carried responsibility in the teaching-learning process. These responsibilities were documented in the pre-questionnaire for the professor (Appendix B) and are described as follows: "a student's role in the classroom is to be prepared to learn and think. Not only does this mean doing the required reads, (sic) it means being well rested, enthusiastic about the learning process--participative. A student should generate energy about learning."

Other responsibilities noted by the professor include: bringing enthusiasm to class; being prepared to learn, think and participate; managing time effectively; taking initiative and realising they were responsible for their understanding and their learning; reflecting, sharing and making meaning of the content and process; experiencing the learning; being accountable to his or herself, to the group and to the class as a whole, and finally enjoying the learning experience.

Cooperative Learning Philosophy. The professor's personal philosophy of cooperative learning was congruent with personal beliefs and style of teaching. The professor felt that

cooperative learning and personal beliefs were closely matched in that the proposed outcomes and processes were congruent. Both of these also blended well with nursing education and in teaching and preparing individuals to assume professional roles in society. It is for these reasons that the professor chose cooperative learning as a model by which to teach. The professor stated, "you end up teaching the way you like to be taught...that comes from my own background...I've had favourable experiences with cooperative learning and this appeals to my learning style".

> The professor described cooperative learning as follows:
>
> Cooperative learning is more than just group work.... Cooperative Learning to me is a sharing experience. It involves working in groups to achieve a learning goal. One of the explicit goals of Cooperative Learning is to develop social skills. The other is to learn about a particular content...this appeals to my learning style. I think it can enhance the prospect that all students bring something positive to the group if they are given a chance.

The professor stated, "cooperative learning strategies are very appealing", but admitted not everyone "does buy into it".

In the learning journal, the professor expressed the following reservations about cooperative learning:

> I want to keep a common sense approach to this. I've heard of and have been involved in situations where it seems too juvenile and it makes me question the social

learning let alone the professional content information that is being examined/discussed.

The professor believed there were many aspects of cooperative learning that did not apply in all situations and therefore the philosophy could and should be modified appropriately to meet the level and the needs of the people using it. The professor stated the following:

> I think cooperative learning is a great strategy for teaching and learning and there is a whole philosophy that goes with it but I don't think you have to buy into that philosophy, and you have to modify it appropriately as well.

The professor viewed the process as having multiple end points, where students could achieve varying outcomes based on need, ability and level. In a debriefing session, the professor explained student differences in the following manner:

> If you expect an end point--and I don't know if you can achieve that, but maybe to have multiple end points or levels because they (students) have different experiences, then I think there are lots of social implications for social outcomes.

The professor believed that nursing students already had a background in communication skills, group theory and role theory. It was expected that the students could participate responsibly and learn to be effective by virtue of their educational level and professional preparation. An example of this was expecting senior level nursing students to make use of

their previously learned therapeutic communication skills, group and role theories, and integrate them holistically when interacting with fellow students. This belief came through during a debriefing session where the professor and the researcher were discussing a cooperative learning checklist.

> I saw socialising behaviors, I thought, "That's not applicable to me", so I didn't worry about that. I think if I was using it very rigidly I would think, "How am I going to put socialising behaviors in it?" I would hope that at this level they would have those behaviors down, and again I think they're part of the group process, and whether or not they're doing those things--I mean how many times can you hit them over the head with it?

Although the professor identified the belief that students should already have the necessary social skills to function effectively within a cooperative learning environment, the following observation was made regarding the nursing program's importance and focus placed on the skill of therapeutic communication.

> ...It wasn't right to put everything in first year and expect the students to be doing that all the way through. Therapeutic communication sort of lost its importance and focus in terms of skills. It needed to be reintroduced as a skill at some point... I mean we had to give it as much value in terms of learning skills. We need to give it more time in terms of what they would get in a med-surg (sic) lab.

The professor derived ideas for cooperative learning strategies from a number of sources. These responses included: ideas of friends and acquaintances involved in cooperative learning; current literature; personal experience in cooperative learning situations; previous experience with cooperative learning in teaching situations; notes on successes from previously taught courses; the researcher; creative reflection, and a combination of any or all of these sources.

When specifically asked the question, "How do you develop cooperative learning strategies?", the professor responded with the following,

> I've done some reading and I have friends who are very involved in cooperative learning-I usually pick their brains. I ask them, and then they've also taken courses that were taught using cooperative learning. Some parts of that I didn't like...so I think those are the parts that you pick and choose from...in looking at what is cooperative learning and how do you meet an end point?

During a different discussion the professor described the development process as involving a task.

> The task is that you look at what you're teaching and figure out how you compartmentalise it and see what you can do to cover the content cause (sic) that's an issue that everybody (most teachers want it addressed, students want it addressed), that it's palatable and manageable.

For the professor, developing strategies was an ongoing creative task that was never completed until it had actually

been implemented. It is important to note that this curricular change was entirely self-directed for the professor with no administrative or facilitator support, other than the researcher.

How did the Professor Implement Cooperative Learning Strategies?

The data describing how the professor implemented cooperative learning strategies was derived from the researcher's observations and from debriefing sessions with the professor. These data correspond to Boxes B and C of the Implementation Perspective in Figure 1 (Fullan, 1983). Box B, the factors affecting implementation, were previously described in Table 1. They are described as "attributes of the program/model..., implementation strategies..., district and school factors..., and extraneous factors" (Fullan, 1983, p. 222). Box C refers to its use in practice. As with the development phase, the professor's personal philosophy regarding teaching, learning, and cooperative learning played a dominant role.

At the beginning of the course the students were informed that the class would be structured through the use of a cooperative learning framework. The students were told of the principles involved in cooperative learning and how their learning might be affected throughout its implementation. The expectations for student behavior and achievement were reviewed. The concept of base groups was reviewed, as well as the responsibilities and tasks associated with it. The above was done by both the professor and the researcher.

Cooperative learning strategies were used in 9 of 11 classes. The two sessions that did not have structured cooperative learning tasks were slotted for student presentations. One class had a guest presenter and was excluded from this calculation. Of the remaining 8 sessions, cooperative learning was implemented from 30% of the time up to 75% of the time, with the mean being 51%. The percentage of time which cooperative learning was implemented was determined by totalling the length of time in minutes a cooperative learning strategy was used compared with the total teaching time in minutes. Break periods and early dismissals were accounted for in these calculations. Table 3 outlines a breakdown of total class time and cooperative learning time.

Table 3

Cooperative Learning Utilisation

Class	Teaching Time (minutes)	Cooperative Learning Time (minutes)	%
I	160	60	37.5
II	160	85	53.1
III	140	60	49.2
IV	140	40	28.6
V	160	75	46.9
VI	160	100	62.5
VII	140	85	60.7
XI	100	75	75.0

The various structures used in implementing cooperative learning strategies are listed below: Cooperative base groups (Johnson & Johnson, 1994); turn to your neighbour; classroom presentation; focused discussion pairs; inclusion activities;

drill-review groups; Think-pair-share-square; focus trios; peer review
(Johnson & R. Johnson, 1991); and creative controversy (Johnson & F. Johnson, 1991). The structures were modified for group size and in the case of drill-review groups, group members were not given bonus marks based on the achievement of other group members.

Examples of the cooperative learning strategies used are listed below.

1. Cooperative base groups are homogeneous in nature and meet preferably each day. The groups use positive social skills in their discussions where their tasks are "active participating, encouraging, summarising, and synthesising" (Johnson & Johnson, 1991, S:45).
2. Turn to your neighbour is a cooperative learning strategy where an answer is created by a group or an individual. The individual must next turn to a new partner. Each partner must then share his or her answer and listen to his or her partner's answer. Together they must then create a new answer (Johnson and Johnson, 1991).
3. Jigsaw is a cooperative learning strategy developed by E. Aronson, where each member of a group must learn a topic and become an expert in that area. This student is then expected to share this expertise with the group and teach it so the whole group may learn it. (Johnson and Johnson, 1994).

4. Focused discussion pairs describe a strategy where students must answer questions cooperatively through discussion. The process involved is

   1. Each student **formulates** his or her answer.
   2. Students **share** their answer with their partner.
   3. Students **listen** carefully to partner's answer.
   4. Pairs **create** a new answer that is superior to each member's initial formulation through the process of association, building on each other's thoughts, and synthesising (p. S:33).

5. Inclusion Activities are activities which promote a sense of belonging, often involving fun and group interaction.
6. Drill-Review Groups are a cooperative learning strategy where each member of a group ensures that all other members understand and can relate the concepts and information learned. All group members are then tested on the material and if all members score a predetermined score, each group member is awarded a set number of bonus marks. For the purpose of this course, bonus marks were not awarded.
7. Think-pair-share-square is a cooperative learning strategy where each person must "think" and develop an answer to a problem. Each individual then "pairs" with another and formulates a revised answer. Two "pairs" then group together to form a "square", and

again the problem is discussed and a revised answer is formulated (Kagan, 1994).

8. Focus Trios is a cooperative learning strategy where prior to learning new material, a group summarises what they know about the topic as well as what they would like to know. After the material has been presented, the group answers their questions, discusses the new material and develops new questions (Johnson & R. Johnson, 1991).
9. Peer Review is a cooperative learning strategy where each student prepares a written assignment to be handed in to the teacher. Prior to handing it in, they submit it to their group for editing and helpful suggestions. Each reviewer must provide input in a positive and friendly way so that the paper will meet the criteria determined for it. The reviewer then signs it to indicate that he or she has reviewed it and has provided input. It is up to the writer to ensure that the suggested and agreed upon improvements are incorporated.
10. Group Investigation is an activity which was first developed by John Dewey, and later refined by Sharan, Sharan and Hertz-Lazarowitz, as one requiring group skills and cooperative planning. The first stage involves the identification of the topic and then organising the students. This is followed by planning

what to learn. Next the investigation is executed. A report is prepared and presented.

11. Creative Controversy is a structure was described by Johnson and Johnson (1994) where students in groups were given a controversial topic. One-half of the group took one position while the other on-half took the opposing position. When the discussion ended, the members switched positions and renewed the debate. In the end the entire group must agree on a position. The rules involved listening, not judging, encouraging, restating ideas, and trying to understand the other's viewpoint.
12. Round Robin Brainstorm is a form of brainstorming where students each contribute thoughts or ideas to a group. The activity involves going around the table with each student contributing, until the ideas run dry (Kagan, 1994).

Table 4 outlines the frequency of use of each of the cooperative learning structures throughout the 12 weeks of the course.

In implementing the various cooperative learning strategies throughout the course, the professor gave very clear and precise directions regarding the content and group tasks. The professor gave direction regarding the following requisites for cooperative learning on three occasions: individual accountability; promotive interaction; group processing; social and small group skills, or face to face interaction (Johnson and

Johnson, & Holubec, 1988). Each day at the beginning of class the professor reminded the class to get into base groups. During the second class, the professor explained the various roles to the class and related them to Year I content and skills. The direction to the students was, "these are related to Year I task and maintenance roles. Someone check to see if these roles are being fulfilled." There was never any assignment of roles or any further direction regarding social skills, group formation, or group behavior. The professor told the class how their critiquing during a peer review task and

Table 4

Use of Cooperative Learning Structures

Learning Structure	Class I	II	III	IV	V	VI	VII	XI
Base groups	X	X	X	X	X	X	X	X
Turn to your neighbour		X						X
Class presentation		X				X		
Focused discussion pairs								X
Inclusion activities	X	X						X
Drill review groups			X		X		X	X
Think-pair-share-square		X						X
Focus trios								X
Peer review						X		
Creative controversy				X	X			
Round robin brainstorm								X
Group Investigation		X				X	X	

during review groups before testing would result in better group knowledge and a better product (completed assignment, test knowledge). The actual direction in the use of any skills to fulfil these implied goals was not consistent or specific. At

the end of each day the professor had the groups go back into their base groups for processing. The groups could use the time to discuss the course content and process, as well as how well they were utilising the cooperative learning strategies. The professor was always ready and eager to answer any questions that would arise. If ever there was confusion regarding instructions or tasks, the professor would readily repeat the expectations. Frequently the professor went from group to group to ask if there were questions or to see how the group was progressing.

The professor never joined the group with the intent of becoming part of the group. The professor cited feeling uncomfortable in joining and always worried that a teacher's presence would alter the dynamics already established, or that the professor could be perceived as threatening by some students. During a debriefing session the professor stated the following:

> I don't want to intrude but I want to take part and let them know that I'm available. I'm always worried that I will alter the flow of their conversation-that they won't feel at ease and they might not discuss as freely as they would have...I don't know how to join without being a threat.

In implementing the cooperative learning framework in the class, the professor always maintained a calm demeanour. The professor was always attentive to the needs of students and demonstrated a positive regard. The professor displayed an open

body posture, maintained eye contact, listened attentively and praised students for their contributions and their efforts. Positive and encouraging statements were made to the students such as, "the point made was a very good point", or "that's a good question because...", and "I saw good group behaviors, good communication practices non-verbal... and verbal.... This is the forum to practice your communication skills and you are doing a very good job in terms of non-verbal and verbal behavior". The professor modelled social skills, and displayed consistency between the stated expectations and the evaluated expectations of the assigned task.

Responses, to a Learning Style Questionnaire from Day II, were utilised to enlighten the professor as to how the students viewed learning. Table 5 outlines the responses of the students to the question, "Learning to me is...:"

This information was used by the professor as a gauge to see how varied the students were in their learning, and to meet their needs.

The professor was interested in the data obtained from the statement "Learning is facilitated for me by...:" in the implementation of the senior BScN course because it gave the professor insight into methods that might enhance learning throughout the course. This data is summarised in Table 6.

Table 5
Student Beliefs Regarding Learning Style #1

n = 11

Learning to me is...:	n
The process of acquiring knowledge	4
Applying knowledge	1
Reading and rote learning	1
New and exciting concepts and thoughts	1
Interesting	1
Grasping new concepts and expanding horizons	2
Systematic and organised	1
A challenge	1

Table 6
Student Beliefs Regarding Learning Style #1
n = 11

Learning is facilitated for me by...:	
Observing, analysing, researching and discovering	1
Being able to apply what I have learned	1
Reading and rote learning	1
Interesting classes and a good teacher	2
Talking to people	1
Writing and listening	1
Hands on, group work, and discussion	1
Planning and organisation	1

The professor drew on and utilised the students' descriptions of "Good Teachers...". These descriptions closely resembled the professor's personal ideology regarding good teachers as was described earlier. Table 7 presents the students' descriptions of good teachers.

Table 7
Student Beliefs Regarding Learning Style #1

n = 11

Good Teachers...:	
Are sensitive to the progress of learners	2
Are fair	2
Are approachable	2
Are thoughtful	1
Are organised	1
Listen to students	2
Care	2
Are patient	1
Accept other's ideas	1
Have a relaxed manner	1
Are personable	1
Show enthusiasm	1
Are comfortable	1
Are confident	1
Don't just stand at the board	1
Lead a class through material	1
Understand students	1

The professor used the data from the "Learning Style Preference" of the students in reinforcing the need to vary cooperative learning activities as well as include independent and competitive learning formats, as most students indicated a preference for independent learning. Table 8 outlines the learning style preferences of the students.

Table 8

n = 11

Learning Style Preference	n	%
Independent	7	63.6
Cooperative	2	18.1
Competitive/Independent	1	9.1
Cooperative/Independent	1	9.1

One important question asked by the Learning Style questionnaire asked the students to answer "I am" or I am not in control of what I learn." This data was important to the implementation phase of the change process involving cooperative learning, as it gave the professor insight into how the students were feeling in regards to their overall learning experience. Out of 11 students who answered the question, eight or 72.7% stated they were in control of their learning while 3 or 27.3% stated they were not.

How did the Professor Evaluate Cooperative Learning in the Classroom?

In evaluating cooperative learning strategies in the classroom the data was categorised according to Box D of the Implementation Perspective by Fullan (1983). Specifically, the outcomes were analysed and the quality of the model and its implementation were examined.

In evaluating the implementation of cooperative learning within the classroom, a number of factors were considered. The professor and the students were considered in the evaluation from their own subjective viewpoints, from their subjective evaluations of each other, and from the researcher's observations. Philosophy, curriculum, and practice were examined as each related to 1) the professor and 2) the students.

Philosophy of Professor. The implementation of the curriculum as it related to philosophy, was evaluated by: 1) the professor through self-evaluation; 2) the students through interview responses; and 3) through researcher evaluation.

The professor's practice in the classroom was compared to the professor's descriptions of learning.

> Learning is not what the teacher tells you or what's in an outline...it is what catches your interest...It is being provided with the opportunity of hearing different things and exploring them on your own. Learning is lifelong...It is reflecting on old things and conceptualising them in new ways. Learning is an evolving process.

The professor provided the students with broad, year level objectives, and a course outline listing the topics that would be covered throughout the course. The professor used a variety of methods to introduce each topic, such as the cooperative strategy Think-Pair-Share-Square (Kagan, 1994), lecture, class input, Creative Controversy (Johnson & Johnson, 1994), group investigation (Slavin, 1995), Round robin (Kagan, 1994) and provided clear direction.

The professor encouraged and supported active discussion and sharing between students, and placed no boundaries on the direction student discussions could take. Students were praised for their contributions, especially when they went beyond that of normal course requirements. The professor frequently broke the groups up after discussion to share insights with a new group of people or with the class. The students were put into base groups twice per day to reflect, share with one another, support one another, and to process learning and progress.

The professor's description of teaching was reflected in the implementation of the course.

> Teaching is guiding and facilitating the learner in the pursuit of knowledge. It takes on many tasks and changes according to the student, the content and the environment.

The professor verbally provided the class with a brief summary each day indicating the topic(s) that would be examined. The professor used competitive, cooperative, and individual learning strategies to accommodate the variety of learning styles present in the class. The professor provided guidance

and direction when necessary, and let student interests guide the content within each topic area. The professor was able to adapt to the changing needs of the students.

The professor's teaching and learning ideology mandated a safe and caring learning environment be created within the classroom. The professor believed this had been accomplished and noted how the students were not reluctant to say anything to the professor, "the group of students was really comfortable in saying to me..., so I think that's a safe learning environment." As well the professor cited an example where a student did not attend for a presentation. "The concern (by the students) was not that the individual was not pulling his weight but what is wrong with this individual and what can we do to help. The care and concern was very real."

The researcher observed that the professor encouraged the students to express themselves, and praised them when they did. The professor never chastised or scolded the students, and was attentive and open with them. The professor provided an environment conducive to learning through modelling expectations, being consistent, fair, involved, and in encouraging and providing the avenue for the students to become involved.

Student responses from the post-class interview supported the premise of the professor providing a safe learning environment. Some comments make were: "I had support from my peers..."; and "you don't feel so much that you're alone...You're depending on other people...your group members

are depending on you"; "they (the group) were very helpful... it helped me to learn and made me feel more at ease about assignments and such..."; "You don't feel overwhelmed...just knowing someone else is there...you can contact them if you need to or they can contact you..."; "they (the group) can help you learn and you can help them learn"; "it was almost refreshing, you could talk to someone in your group and they'll be feeling the same way"; "if one person is lacking then the rest of the group can help the other person out and together you can all learn as a group"; "you all help each other learn"; and "it's a supportive environment if you need it".

Another of the professor's expectations was that the course be interesting and fun. The professor made the following observations about the degree of interest and fun generated within the class: "I like the energy in the room"; "I haven't seen any bored faces"; "The class was responsive and enthusiastic"; and "I always found they (the students) had lots of energy and I felt they enjoyed being in the class".

The students made a number of comments concerning the level of interest and fun in the course. They are as follows: "It was a different kind of learning, it was really active and it was almost fun"; "I enjoyed it (the class)... it's more fun"; "it was my favourite class...we had so many activities that it was always interesting. We were never bored."; "I thought it was excellent", and "the things that we learned were an interesting way to learn."

The observations of the researcher describe a subjective interpretation of the non-verbal body language of the students. This can possibly provide insight into the degree of fun and excitement in the class.

At the beginning of Day II, the students were bright-eyed, maintained eye contact with the professor, smiled and were attentive to the directions given by the professor. When the students entered groups of four, only one-half of the groups were in a face-to-face position with the other one-half of the class in various other configurations but with no groups in a line formation. There were smiles on the students' faces, with excited discussion going on. The students maintained eye contact, and the majority of students either faced one another, or turned to face one another, and leaned into the group. During a competitive activity, the students giggled, laughed, and smiled throughout the activity. There were four or five students talking about an unrelated event.

Most classes had similar occurrences. There was one base group which consistently discussed alternate topics or had negative body language such as: arms folded across chest; leaning away from the professor or group; frowning, and having unhappy looks on their faces. When these students entered other group configurations their non-verbal behavior changed to more positive behavior and they took a more active role in the class.

One of the major expectations of the professor was that learning take place. One indicator of this was the high student achievement scores obtained. The marks were not made available

to the researcher due to confidentiality, but the professor stated that the high scores were an indication of an increased level of learning both as individuals and as groups. The professor believed that the high achievement was a direct indicator of the degree of learning and of the success of cooperative learning. Statements made by the professor substantiate this finding.

Researcher: "Do you have any concerns?"

Professor: "I do...'cause I think their grades are going to be too high."

Researcher: "Do you think they deserve the grades?"

Professor: "I think so because they have been putting out a consistent energy...it's this whole thing of putting your mind around it differently. You want them to have knowledge, information, acquire it, and you test for it and you give them the opportunity to learn and they do well on it. I think that's what I'm looking for..."

Other statements which the professor make also indicate a high degree of learning took place within the classroom.

> "I was amazed at how much they knew...They reinforced the belief that students learn lots of stuff and they probably learned that because that was the stuff they wanted to learn."

Again, while discussing the student's high marks, the professor stated the following: "I believe that if cooperative learning is effective and the goal is that everybody achieves,

this is an element of it working. They achieved as a group as well as individuals".

Students also believed their learning was significant in the senior BScN class. Question #2 of the Post-Course Interview (Appendix H) asked, "How would you compare your learning in this class and your learning in other classes?" Table 9 summarises this data, and demonstrates that the greater majority believed their learning was equal to or greater than other classes.

Table 9

Student Learning in Cooperative Learning Class

n = 17

Level of Learning					
more/high	percent	less	percent	same	percent
12	70.6	2	11.8	3	17.6

Students also made the following remarks: "I think I learned more..."; "I thought it was a different kind of learning... you learn a lot more because you're discussing it...it's more of an active kind of learning"; "I felt I learned a lot... I enjoyed it more, ...it was fun"; "it was effective"; "I'd say it'd (sic) (learning) be above average"; "great, best class. I really learned the most in this class", and "different! This is really the first time that I have ever used cooperative learning... I guess it was better that way"; "I thought it was excellent."

Other students who thought they learned less in the class made statements as follows: "Other classes were better"; and

"definitely this one wasn't as complete. I didn't feel as if I had learned as much."

Those students who felt their degree of learning was the same as in other classes made the following statements: "Basically it was the same"; "I prefer more of a lecture style...I didn't really learn less"; and "they're about the same."

The researcher observed that students could discuss the proposed topics intelligently and brought their own insights into the discussion and applied the topics to other related areas.

Implementation of Cooperative Learning Strategies. The professor and researcher made daily observations regarding the implementation of the cooperative learning curriculum.

An important strategy was the process of reflection. The professor engaged in this process after each class during debriefing sessions as well as during other times of the day for example, "on the drive to work", "in the shower", "last night", and other less specific times of the day.

In reflecting, the professor questioned all of the items related to the professor's personal beliefs regarding teaching, learning and cooperative learning which were mentioned earlier. Specifically, the professor reflected upon the teaching skills used, personal affect, degree and quality of learning by the students, how well various strategies worked and if the professor would make use of them again, if the content was levelled appropriately, how the students were feeling about the

class, how enjoyable the learning situation was, how well the students were working together, how the students were participating, if they were using group and social skills, and the overall abilities of the students.

The professor identified things that worked well in the implementation of cooperative learning strategies within the classroom. They were identified as: "most groups demonstrate good communication skills such as good eye contact, nodding, clarifying, providing encouragement, and leaning toward one another when discussing"; "many groups share information between groups"; "most groups bring a lot of enthusiasm to class and to their discussions"; "the students know what to expect and they feel safe in this environment"; "the students are providing support for one another and demonstrating care and concern for the welfare of their fellow group members"; " the students are being accountable to their group because they are coming prepared and discussing what they need to know"; and "there is good learning going on".

The professor made a number of observations about the process of teaching cooperative learning strategies. The professor stated, "I feel good about the day and the process. I certainly didn't feel exhausted as I am used to doing after doing a lot of lecturing." The professor also noted, "It takes more time to organise the class because it's not just giving the lecture and putting them into groups. I also want to keep them interested and having fun."

While reflecting upon how various cooperative learning structures and activities went, the professor wrote these comments in a personal learning journal:

> I did like the way I put the _____ sheets up and then the _____ sheets up. I think this kept the class focused. Asking only a couple of groups as representatives worked well too.
>
> I also think the competition of lining students up worked well and generated some energy. There seemed to be a group spirit that was generated just because there was pressure to "beat" the other group.
>
> The content went well. I covered everything I wanted and I was happy with the level of preparation, participation, and understanding.

In evaluating the effectiveness of a particular cooperative learning strategy, the professor examined student reactions. The students were observed for the following: enjoyment; the ability to organise and manipulate information; the process of reflection; level of confidence; willingness to participate and learn; comfort, anxiety, and frustration levels; boredom; the ability to identify and use social skills and group roles independently; the ability to listen to one another; the acquisition of knowledge, and the ability to think and act as professional nurses.

Another method the professor utilised in evaluating the implementation of cooperative learning strategies was to ask the researcher her own opinion. This was used to further clarify

the professor's own impressions, or to seek alternate methods of developing, implementing and evaluation the curriculum.

The learning questionnaire and the evaluation tools (see Appendices C, D and E) used by the researcher in obtaining research data were also used by the professor to evaluate cooperative learning strategies. From these tools the professor was able to gain insight into the students' definitions of: learning; a good teacher; a good learning environment; the preferred style of learning; the group's perception of their communicating ability; their participation in the group process; their decision making ability; the qualities each individual brought to the group, and how the students functioned individually and as a group.

The professor examined which strategies did or did not work in the class. The professor stated that there needed to be a greater focus on group process as opposed to task process as the students were not attending to that. The professor decided that in the following school year the class would have to develop group skills.

When the professor was asked by the researcher how well the group processing was going in the class, the professor had this response:

> I'm not sure. I think they might be doing it... I think the groups have very definite tasks associated with what the group is supposed to do. I think the group is just used to going into group and doing the task - the maintenance skills that go along with that. I'm not sure

> if they're doing that or if they even have the opportunity of doing that... What I see is that they are engaged in the group process and that they are a very positive group.

The professor made numerous other observations regarding how well the students worked with cooperative learning strategies. The following comments were made during a debriefing session:

> I haven't worried a great deal about students who don't talk in the big forum talk in the small forum and I'm okay with that... I do find in the small groups they're talking.

The professor noted how the cooperative learning strategies seemed to be going well, but questioned the reason behind its success, "...there's lots of co-operation and I think sometimes I'm not sure if it's the effect of the person teaching. There are lots of influencing variables - my teaching style, my style of managing things."

A videotaped session of the professor utilising cooperative learning strategies within the classroom during week two was used as an evaluation tool. The professor first assessed perceived strengths and weaknesses during the implementation of teaching strategies. The professor felt that the personal behaviors that were exhibited were consistent with those necessary for good teaching skills such as: verbal and non-verbal behavior; warmth; positive regard; encouraging students, and providing clear direction.

After analysis of personal performance, the professor viewed the videotape and confirmed that the desired behaviors were indeed exhibited. The professor identified that one area of the class was neglected and made a note to include the entire class. The professor indicated feeling quite comfortable with the content of the videotape as the behaviors exhibited were consistent with personal expectations and philosophy. The professor stated, "I'm quite comfortable with how I teach.

The professor identified problem areas in the implementation of the classes and identified them as follows: The professor lectured for 70 minutes and stated afterward, "I spoke too long and didn't get to say everything, I won't do that again"; some group members did not actively engage in discussions or use positive social skills on a regular basis, and when base groups were given the opportunity to study together for their tests, some chose to do so independently.

The professor observed that some students were not working well in their groups. The professor made the following comment:

> I guess I see that there is gabbing that goes on and some groups are really committed to being a good group in terms of process as well as the task, and others don't know how to get organised and they don't have a leader to organise them...

While reflecting upon and evaluating the problem, the professor made this comment:

> ...if you could spend more time making the group effective, the group work effective, it's not enough to

> think that they have the skills. When they're studying in group, some are effective groups and some aren't and how are they determining who is the leader and all those other things? How do they share that? ...it wasn't enough to just give them and let them identify the roles. I always get caught between the process of group work and accomplishing the task of the content... maybe some people aren't going to buy into it regardless. It's not going to be a panacea for learning or for education.

Student-participants were able to formally evaluate themselves in their use of cooperative learning strategies at two points in the curriculum. During weeks II and VI, the Group Evaluation Form was distributed to the students in order to gain insight into how the groups functioned. For the purpose of clarity, the evaluation of week II (n = 26) has been compared to week VI (n = 17), to determine any change in the students' use of cooperative learning behaviors.

Table 10 examines communication and listening skills.

The data from Table 10 examines communication and listening skills. The data indicate that group members felt enough at ease with one another to talk freely and demonstrated that at one time or another everyone listened. There was however a small increase in the amount of interrupting that occurred during week VI.

Table 11 presents the data as it pertained to the students' abilities to share and show concern for one another in the use of cooperative learning strategies. These data indicate

Table 10

Group Communication Skills

	Week II n = 26				Week VI n = 17			
	Yes		No		Yes		No	
Question	n	%	n	%	n	%	n	%
1. Did all group members feel free to talk?	26	100	--	--	17	100	--	--
2. Was there any interrupting or cutting off?	11	42.3	15	57.6	10	58.8	7	41.2
3. Did people listen to one another?	26	100	--	--	17	100	--	--

Table 11

Demonstration of Concern

	Week II n = 26				Week VI n = 17			
	Yes		No		Yes		No	
Question	n	%	n	%	n	%	n	%
4. Were group members asked to expand a point they were trying to make?	19	73.1	7	26.9	16	94.1	1	5.9
5. Did all members have opportunities to share their ideas?	25	96.2	1	3.8	17	100	--	--
6. Did any members dominate the discussion?	18	69.2	8	30.8	10	58.8	7	41.2
7. Were group members sensitive to the needs and concerns of other group members?	26	100	--	--	16	94.1	1	5.0

that the students improved in their abilities to expand upon their points during discussions and have the opportunity to share their ideas.

An interesting finding is that there were more group members who dominated the discussions in week VI as compared to week II. The students indicated through, there was slightly less sensitivity within the group although not a significant amount.

The decision making and organisation of the group was examined in Table 12. The data indicate there were no significant changes in ability other than the groups were better able to agree to the decisions which were made by week VI.

Table 12

Group Decision Making and Organisation

	Week II n = 26				Week VI n = 17			
	Yes		No		Yes		No	
Question	n	%	n	%	n	%	n	%
8. Did the group consider a number of ideas before coming to a decision?	26	100	--	--	16	94.1	1	5.0
9. Did everyone agree to the decisions that were made?	20	76.9	6	23.1	15	88.2	2	11.8
10. Was there any organisation in the group?	24	92.3	2	7.6	16	94.1	1	5.9

There were five students who chose to add comments to the bottom of the Group Evaluation Form. The comments were: "we worked well together"; "group work is essential to getting things done on time"; "one-half of the time group members were not present, making group work difficult"; "most of the time was spent gabbing"; "group work is not conducive in this environment." These comments demonstrate the polarity of ability to work with cooperative learning within the class.

Again, the students were asked to evaluate how they as individuals were able to work cooperatively in weeks II and VI. The Individual Evaluation Form (Johnson & Johnson, 1984), (Appendix E), distributed during week II found that 19 or 86.4% of students felt that as a group they accomplished their goals (n = 26) while in week VI 100% (n = 17) felt that the group accomplished their goals. The responses to "Helped each other add or clear ideas" and "felt good about working together" indicated that 100% of students in both week II and VI felt they had been successful.

The next set of questions from the Individual Evaluation Form (Johnson & Johnson, 1984), (Appendix E), asked the students how they personally contributed to the cooperative group. The findings from Week II are presented in Table 13, and in terms of level of group contribution ranged from "mostly" to "a little" to "none".

Table 14 presents the data from the Individual Evaluation Form (Johnson & Johnson, 1984), (Appendix E). These findings

Table 13

Student Contribution Week II

n = 22

Question	Mostly		A little		None		No Answer	
As a Group Member, I:	n	%	n	%	n	%	n	%
Contributed ideas	13	59.1	9	40.9	--	--	--	--
Encouraged others	8	36.4	12	54.5	1	4.5	1	4.5
Clarified ideas	8	36.4	13	59.1	--	--	1	4.5
Summarized ideas	9	40.9	9	40.9	3	13.6	1	4.5
Recorded ideas	7	31.8	7	31.8	7	31.8	1	4.5

Table 14

Student Contribution Week VI

n = 17

Question	Mostly		A little		None		No Answer	
As a Group Member, I:	n	%	n	%	n	%	n	%
Contributed ideas	11	64.7	6	35.3	--	--	--	--
Encouraged others	11	64.7	6	35.3	--	--	--	--
Clarified ideas	10	58.8	7	41.2	--	--	--	--
Summarized ideas	8	47.1	9	52.9	--	--	--	--
Recorded ideas	2	11.8	10	58.8	5	29.4	--	--

demonstrate that the students perceived an improvement in their idea contribution, encouragement to others, provision of clarification, and summarization. One curious finding was that by Week VI, students recorded their ideas less often.

The next section of the Individual Evaluation form made the statement "Something I did to make the group feel better about working together was...:". The data from weeks II and VI

are summarised in Table 15. These data indicate that students were able to pick out positive behavior, especially those associated with cooperative learning.

The next question from the Individual Evaluation Form asked the students to state, "Something I did to make the group more successful in doing its work was." The data from weeks II and VI are presented in Table 16. Seventeen out of nineteen responses indicate the students worked at working cooperatively. The final two answers, "was bossy and goal oriented", and "nothing", indicate the person(s) were not using positive social skills.

Table 15
Something I Did to Make the Group Feel Better about Working Together Was:

	week II n = 16 n	week VI n = 17 n
Listen	2	
Encourage	5	6
Smile	2	2
Not interrupt	1	
Provide positive reinforcement	3	
Allow everyone equal opportunity To speak and discuss	4	
Contribute good ideas	2	
Welcome everyone	1	
I was always is a good mood		3
I pointed out the members		2
I was always available		2
Never criticised		2
Self-disclosure		2
Included everyone		1
I was open to new ideas		2
Organised		1
Participated well		1
Provided feedback		1

Table 16

Something I Did to Make the Group More Successful in Doing its Work was:	week II n = 17 n	week VI n = 17 n
Encourage	4	3
Keep on track	2	
Ask questions	2	
Act as a pacer	1	
Be supportive	2	
Contribute ideas	6	2
Record information and ideas	1	
Represent the group	1	
Follow guidelines	1	
Speak up	2	
Pick out important concepts from the lecture	2	2
Kept things on track		4
Encouraged brainstorming		1
Set time limits		1
Was prepared		2
Motivated others		2
Accessed everyone's knowledge level		1
Was bossy and goal oriented		1
Nothing		1

The final question to the Individual Evaluation Form asked the students to list their answers to: "Something I'll work on

next time is:". Again most responses indicated that the students could identify an area of weakness and listed it as something to improve. There were two negative answers which were "get a better group", and "nothing". This suggested that the student(s) were not effectively using cooperative learning strategies. The remainder of the responses to this question are found in Table 17.

Table 17

Something I'll work on next time is:	week II n = 14 n	week VI n = 17 n
Participate	1	
Contribute ideas	3	1
Lead	1	1
Limit time talking	2	
Have everyone talk one at a time	1	
Encourage input from others	2	1
Keep on topic	1	1
Record ideas	1	2
Decrease interrupting	1	
Do readings	1	
Be more patient		1
Don't rush group to finish		2
Read		1
Be on time		1
Communicate ideas better		1
Get a better group		1
Nothing		1

The final section of the questionnaire asked the students to identify names of other group members who added ideas, encouraged others, summarised or clarified, kept records or who

were very quiet. There were 5 students (22.7%) who indicated that one or more group members used the behaviors through the use of actual names or ticks. There were 13 students (59.1%) who did not provide an answer and four students (18.2%) who wrote a hostile comment such as, "This is none of your business."

When the Individual Evaluation Form: My reaction to Group Work form (Johnson & Johnson, 1984) (Appendix E), was re-distributed to students during their second last class, the final question was modified in response to the student reaction from the first distribution. The students were told that they did not have to name individuals, but rather to just indicate if group members were adding ideas, encouraging others, summarising or clarifying, keeping records, or being very quiet. The responses are as follows: Fifteen students (88.2%) felt that one or more people in the group added ideas, encouraged others and summarised or clarified, and two students (11.8%) did not respond; twelve students (70.6%) indicated that one or more people kept records in their groups, 3 students (17.6%) stated that no one kept records, while 2 (11.8%) students did not respond; and 12 students (70.6%) indicated that one or more people in their groups were very quiet, 3 students (17.6%) stated that no one was very quiet and 2 students (11.8%) did not respond. An interesting finding hers is that some students still chose to write down the name of their classmates and no one wrote any hostile responses. The professor responded in this way:

> One BIG thing I noticed was the quality of the responses to (the researcher's) questionnaire at the beginning and at the end. At the beginning some of the responses seemed guarded and somewhat hostile--but the second set--seemed muck more informative, the students took more time with the questionnaire (when you would expect they would take less, because it was "more of the same") and were very sharing and open--I didn't notice the hostility or guardedness.

The professor also utilised student comments and fellow professors' comments to subjectively evaluate the effectiveness of cooperative learning. The professor stated that many positive comments had been overheard as well as directed toward the professor. This was viewed as a positive evaluation.

Student learning journals handed into the professor for credit were also used as tools to measure learning and the effectiveness of the teacher and the teaching-learning strategies. The professor stated that the comments were positive and many students indicated that a high degree of learning had taken place. The professor also noted that students wrote about their base groups and other experiences in groups. The students cited examples of caring for one another, concern for the welfare of fellow students, the support and guidance provided within the base groups, the network of resources created by the students, and the element of trust described within the class.

The journals also provided insight into what did not work within the class. The students identified not liking icebreakers and inclusion activities but stated they learned about themselves in the process. The students suggested that cooperative learning would be a better learning model if implemented in the first year of the nursing program. One group identified itself as a "dysfunctional group" where there was minimal support, interaction and learning between group members.

When the researcher asked the professor what resources were needed to continue the pursuit of effective cooperative learning, the professor identified that more support was necessary. During a debriefing session the professor stated:

> What I need in terms of cooperative learning is to communicate with like minds "cause I think you generate new ideas and maintain the interest and the momentum and the enthusiasm. Find people that think alike who see this as beneficial and unique and find new ways of doing it. Probably it would empower students as well... I would like the school to be doing more of it--to develop a critical mass of people doing it and of students liking it.

After reflecting on and discussing the topic some more the professor added the following comments:

> ...you have to have your faculty come on board and have people buy into that. We don't buy into a lot of things anyway as a faculty, meaning individuals have a strong sense of how and what they teach.

The overall evaluation of the course was good according to the professor. The professor described the evaluation as "ongoing, active research." The professor wrote an overall impression of the implementation of cooperative learning in the senior BScN class. It went like this:

> I really enjoyed this class. I was worried that it was going to be difficult because they were in class so long. I liked the way I paced the class and used cooperative strategies to cover the course content. I found the students were energised by the group process most of the time. I always found they had lots of energy and I felt they enjoyed being in the class. I think the presentations could have been improved--but I also know they were "Presentationed-out" so I might re-think that next year. Maybe more of these short "teach the class" opportunities would work. (I really was impressed with the amount of information they had--it was obvious they had paid attention in class and knew the material). The rewards were easy and added some lightness to the class experience. This didn't take much more effort than preparing the lecture--and I liked planning the time with various learning activities. Some things worked and some didn't. I think the class might have been suspicious about what I was doing at the beginning because some of the things didn't come off very well--but they were good and kept participating.

The telephone interview was utilised to solicit the students' thoughts and beliefs about the cooperative learning experience in their course. The comments made by the students reflect both the researcher's and the professor's observations and impressions of the success of cooperative learning with the various students. Comments made by students were as follows: One student described cooperative learning as an effective way to learn and stated "you're open to more than just one view and you're allowed to express your own"; another stated, "it was almost fun, I felt more active in the learning"; another said, "I actually got to be involved in it instead of just listening"; one student described the supportive atmosphere and attributed it to "having people to go to if we had problems"; another student stated,

I guess you don't feel so much that you're alone....You're depending on other people. I guess it almost motivates people to do their best because there are other people around, your group members are depending on you to get the answers or help supply them with different information. I think that's pretty positive.

Another student had this to say about the best features of cooperative learning:

> I could learn from my group...learning from each other. We work together, all of the students and the teacher, we are all doing it together -- not the teacher up there and the students sitting there. Also, we had so many

activities that it was always interesting. We were never bored.

One student described her experience with cooperative learning in the following manner:

> ...it's learning with the aid of group using different groups to learn different concepts, so the ideas shared with the group are all adding to your experience and your knowledge instead of just reading a book or taking notes or memorising it.

Another student shared this reflection:

> I described it more as the group process, cooperating with other people, whether you're comfortable with them or not, working towards one goal. It involves a bit of arguing sometimes but just working with another person or the people to get the same goal.

One student provided a very different insight into the cooperative learning experience. She said, "I think it was a different kind of learning 'cause...this course was more learning how to learn."

When one student was asked, "What are the best features of cooperative learning?", she answered, "Sharing ideas... and different opinions. When you get together to do some group work, everyone doesn't just have the same idea, so you have a wide realm of variety."

Another student expressed this opinion about the benefits of learning through cooperative learning:

> I would say that I learned more in this class than other classes, maybe because it was easier, because it was group work in a lot of ways and we had feedback through each other. I could learn off of that, being able to ask questions more openly with each other is what I think helped learning more than just sitting there and listening to a lecture where you don't really want to ask a question, whereas in a group you were able to talk about things and clarify ideas and stuff...once you're open to the idea and learn how to use it then it works quite well.

Not all students were so positive about their cooperative learning experience. One student had the following to say:

> At first I didn't like it with all the group work that I did. It seemed like we were wasting our time. But the very last class that (the professor) did when (the professor) did the summary and had us discuss it, we actually did. There was a lot of stuff that we learned that we didn't realise that we were able to tie in which showed us that it did work... It opens up your eyes to other peoples' views, other peoples' ideas.

One final student had very negative thoughts and feelings about cooperative learning. For this student, learning was not enhanced. When asked, "How would you describe your learning throughout this class?", the student responded, "Minimal...I don't want to go into it." The student had other comments to make.

> Other classes were better. I just think group work has its purpose in university in say first or second year when you don't know anyone and you really need support, but in fourth year, I personally don't think that it's beneficial.

When the student was asked to describe cooperative learning, she had this to say,

> Group work, relying on someone else, on other people. I don't want to say a waste of time but it takes a lot more time from the classroom than the actual learning, you know getting into groups, talking with your group, getting back into the big group-it takes a lot of time.

The same student was asked, "What are the best features of cooperative learning?" The student answered, "It's a supportive environment if you need it, which a lot of us needed this past year was support...it provides support for the student if they need it."

The final question asked of the student was, "What are the features of cooperative learning that you would like to change?" The student provided the following response,

> The year it's implemented in. That's basically it. I mean, cooperative learning is a good idea and it has its purpose but I don't think its purpose is in fourth year. Definitely I think it's important in first year because then you get to know the people and that's when you need the support... In fourth year you just want to get it done and you have your own way of doing things, you have your

own style, you have your own schedule, and group work is just a big hassle in fourth year.

It is obvious that all students found something positive in their cooperative learning experience. The benefits derived from it were dependent on each student's desire and ability to use the framework. The benefits which were identified were support, increased social skills, care and concern for others, accountability to the group, increased motivation, increased learning, reflective powers, tolerance, and higher achievement.

Summary

This chapter has examined the data which were collected throughout the study. It was presented under the three questions guiding the research.

Chapter Five

Discussion and Analysis of Data

Introduction

In this chapter, the data will be discussed under the headings of the three questions guiding the research. The Implementation Perspective (Fullan, 1983), which was the conceptual framework for this study, will be discussed as it relates to the three questions guiding the research.

Conceptual Framework

The first of the research questions, How did the Professor Develop Cooperative Learning Strategies, relates to Box A: The Change, and Box B: Factors Affecting Implementation In The Implementation Perspective, (Fullan, 1983). In developing cooperative learning strategies, one first must define the change along with any factors which could affect the implementation process.

In defining the change, the change agent, and in this case the professor must examine:

1. possible use of new *materials*
2. possible changes in *structure*
3. possible use of new *teaching approaches*
4. the possible incorporation of new or revised *beliefs*

(Fullan, 1983, p. 217)

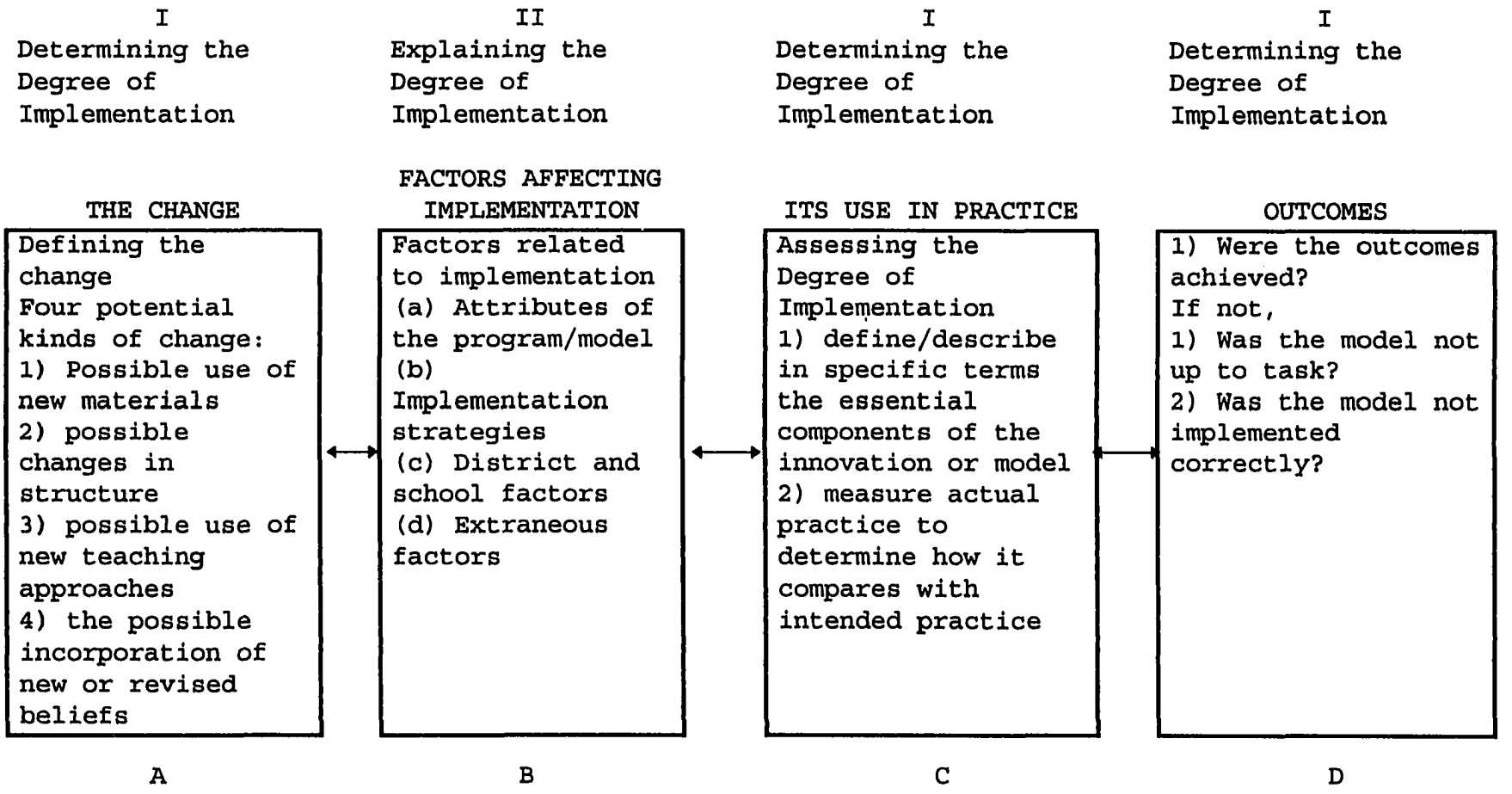

Figure 2. Elements of planned change (Fullan, 1983).

The change agent must also assess for and examine any planned or unplanned factors which might affect the implementation of the program. The second question, How did the Professor Implement Cooperative Learning Strategies? relates to Boxes B and C of the Implementation Perspective, Box B is again related as the factors affecting implementation play a large role in how one actually uses a new innovation. Box C concerns the use of the changed curriculum, and whether fidelity is maintained to the original model, or if any adaptation has occurred. The third question, How did the Professor Evaluate Cooperative Learning in the Classroom? correlates to Box D, Outcomes of the Implementation Perspective. It examines whether outcomes were achieved, and if not, why not. Each conceptual framework question will be explained as it relates to each of the questions guiding the research.

How Did the Professor Develop Cooperative Learning Strategies?

In examining how the professor developed cooperative learning strategies, one must examine the change itself. In looking at the Implementation Perspective under the first heading, "Determining the degree of implementation" the change itself is explored (Box A), and thus provides insight into the answer to this question. The Change, is the use of cooperative learning within the senior level BScN course. The type of change is examined and analyzed.

Defining the change. The first question which must be asked in order to define the change is, "what aspects of current

practice would change, if this program were to be used effectively?" (Fullan, 1983, p. 217).

The professor believed that if the new program, involving the use of cooperative learning strategies within the senior BScN course were used effectively, cooperative learning strategies would be used in combination with other traditional teaching-learning methods to meet the learning needs of the students. This is evidenced by the following statement made by the professor during a debriefing session:

> One of the things I've tried to attend to from the learning styles inventory is teaching in a couple of different styles.. So there is the lecture component there for students who want to have concrete information, then there's the group work involved for those who are processing differently and then there are other times when they are just by themselves processing so I'm trying to do all of those different things.

The professor believed that changes would occur on a student level and on a teacher level. The professor stated, "I think there are levels. I think one is going to be the behavioral change which has nothing to do with the content in the program but the learning process they've gone through--cooperative learning.

The professor believed that the students would exhibit philosophical and behavioral changes as a result of the exposure to a new style of learning. They would then begin to value learning and become motivated to learn, possibly without the

"grade incentive". Next they would freely participate, and actively seek out new meaning, while sharing insights and discoveries with fellow classmates. A statement make by the professor illustrates this point:

> There would be the group who would see this thing being a learning situation--a learning environment. And in the best world situation, that would be the great way to go--that it's a learning environment, so we shouldn't be worried about what a mark is going to be--let's do things, be creative and explore the opportunity, and that can be liberating for some people...

The professor believed this experience would then allow students to gain expertise with their use of group and social skills, while learning to problem-solve, become critical thinkers, and professional nurses.

All of the above changes were believed to positively affect student learning and achievement. While it was important to the professor that students attain a high level of both, it was expected that there would be a range of achievement among students as the professor believed all students were different. The goal was that in some way learning, achievement, expertise, use of social skills, problem-solving, insight, self-directedness, critical thinking and sharing would be enhanced in each student's individual evaluation. A statement by the professor illustrates this, "If you expect an end point...have multiple end points or levels because they have different

experiences, then I think there are lots of social implications for social outcomes."

For changes affecting the teacher, the professor believed there would be greater confidence and ability in being able to utilise another teaching strategy. This would enable the professor to become more effective in meeting the learning needs of all students, not just a select few. It would also bring satisfaction as this method of teaching resembled the personal preferred learning style of the professor. This is supported by Bird (1986), Brown and Rose (1995), and Mann (1990) as they believe teachers bring part of themselves into their own teaching practice. In all it would enable the professor to become a more effective teacher.

In defining the change, one must analyse the following four potential kinds of change:

"1) possible use of new *materials*
2) possible changes in *structure*
3) possible use of new *teaching approaches*
4) the possible incorporation of new or revised *beliefs*"
(Fullan, 1983, p. 217).

The first change was the use of new materials. The professor utilised new "materials" in personal preparation for curriculum implementation. These included: new texts and handbooks on cooperative learning; new ideas for games, and new ideas and suggestions for the set up of the course and course expectations including assignments. One previously unused "material" was the researcher who provided input and information

on activities and strategies, as well as a source of support and collaboration. The inclusion of support and collaboration increased the likelihood of successful outcome, however strong school, administrative, and collegial support would increase the likelihood of a successful outcome even more (Brown & Rose, 1995; Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

The second change occurred within the structure of each class. The curricular implementation of the cooperative learning teaching strategy demanded that new ways of structuring the course be put into place. The professor's statement, "I don't want to get into the same teaching strategy everyone else is using--testing them, giving them assignments," indicated a desire to change and be different. Strategies had to be reflected upon and incorporated, modified, or discarded. Time was also structured differently. Activities had to be carefully planned so as to allow for a variety of learning situations and to have time for traditional teaching methods as well. It all had to be incorporated so the professor could manage the multitude of items on each outline without rushing the students or feeling rushed. As well, the classroom was physically changed as students rearranged desks so they could work together in groups.

There was also a philosophical change within the classroom. Students were expected to actively be responsible for supporting one another, providing each other with direction, be a sounding board, and be an evaluation tool for one another.

The structure of the class changed so that students had to play an active role in their own learning. One student said this:

> ...I felt more active in the learning...when you're actually in the group talking about different things you learn a lot more because you're discussing it and you're actually learning it so it's more of an active kind of learning.

The third change was that of new teaching approaches. New strategies were utilised which required co-operation, involvement, problem solving, use of social skills and self-directedness from the students. Some of these strategies included the use of: Cooperative Base Groups; Think-Pair-Share-Square; Peer Editing; Focus Trios; Turn to your Neighbour; concept learning exercises and inclusion activities. The teacher shared the power with the students, thus effectively creating the caring, democratic atmosphere so important in cooperative learning (Sapon-Shevin and Schniedewind, 1992). This was supported by several students indicating that the professor shared the teaching and learning with the students. One student said, "The teacher is involved as a facilitator and gets things going and gives you ideas but the students do a lot of the learning." Another said, "You're allowed to express your own (view) which you're not encouraged to do in a straight lecture/take notes atmosphere". These strategies were used in conjunction with more traditional teaching strategies so that the learning needs and styles of all students could potentially be met.

The fourth change which occurred was that of new or revised beliefs. The professor stated very succinctly personal beliefs on teaching, learning, and cooperative learning. The professor utilised cooperative learning, but not exactly as suggested by numerous specialists in the field. The professor was quite frank in admitting that one did not have to "buy into" the whole of cooperative learning, and that one could use what pertained to the situation. The professor utilised cooperative learning strategies in a manner that coincided with personal beliefs. The professor believed quite strongly that as senior-level BScN students, the students were already quite adept at group work and social skills. As such, the teaching of social skills and the explicit structuring of the five essential components of cooperative learning, as described by Johnson and Johnson (1991), were omitted. The mutual adaptation (Berman, 1981; Bird, 1986; Fullan & Stiegelbauer, 1991; McLaughlin & Marsh, 1978; Snyder, Bolin & Zumwalt, 1992) of the professor's beliefs and style with cooperative learning theory demonstrated an attempt to find the right conditions to make the cooperative learning strategies work for that particular community of learners (Mann, 1990). The professional preparation and practice of the students was taken into consideration and the teaching strategies were adapted for their special situation (Popkewitz, Tabachnick & Wehlage, 1982).

In explaining the degree of implementation or Box B of the Implementation Perspective (Fullan, 1983), factors affecting implementation are examined. While it is included under the

first research question, it has been shown to have an effect throughout the entire change process: development; implementation; and evaluation. The factors are listed as follows: "(a) Attributes of the program/model...; (b) Implementation strategies...; (c) District and school factors..., and (d) Extraneous factors..." (Fullan, 1983, p. 222).

Attributes of the model. The first set of variables affecting development and implementation is clarity, where the goals and the means of implementation are assessed (Fullan, 1983). In developing the cooperative learning strategies, actual and specific goals regarding cooperative learning strategies were not formally determined or communicated to the students. They were instead discussed as part of a philosophy and as something the professor hoped to achieve through its implementation. The professor stated "I had a framework in my mind of how I was going to work it and also we had designed something in the summertime." They were never formally documented by the professor so that they could be evaluated at a later date. The means of implementation was determined to be through attitude, commitment, activities and assignments. The five essential elements outlined by Johnson and Johnson (1991), were not formally considered. In effect there was little clarity concerning the goals and the means of implementation. The likelihood of student or teacher success where curricular innovation is concerned, is reduced when a clear plan of outlining goals and objectives is omitted (Fullan & Pomfret,

1977; McLaughlin & Marsh, 1978). The reduced likelihood of teacher or student success translates into difficulties with the cooperative learning curriculum, whether they be teacher or student centred. This in fact did occur in that the professor could not get all students to work effectively within a cooperative strategies. As well, a number of students identified that they were having difficulty with cooperative learning strategies because they did not aid in their learning.

Complexity is another related variable affecting the implementation of a planned change. (Fullan, 1983). The actual complexity for the professor in implementing cooperative learning strategies within the classroom was less than that described by Johnson and Johnson (1991). This was due to the decision made by the professor not to formally structure the five essential elements into cooperative learning activities. While the elements were acknowledged, they were not emphasised and planned for.

The complexity of cooperative learning strategies was greater for some students than it should have been. This is due to the fact that the five essential elements of cooperative learning as described by Johnson and Johnson (1991), were not formally put in place by the professor in the planning or implementation of cooperative learning strategies. Collaborative skills were not taught to the students, and no direct intervention took place when problems involving social skills were identified. The students had to then figure out how

to work with cooperative learning on their own. Not all students were successful.

The third attribute of the program is scope (Fullan, 1983). It was the goal of the professor that the behavioral change in the students be great. Again, since the actual degree of change was never formally identified, it was difficult to accurately determine the actual scope. This again lead back to the need for clearly defined goals and objectives, to lay a trail for outcome evaluation.

The final attribute of the program is the quality of materials (Fullan, 1983). The quality of materials utilised to aid in implementing cooperative learning strategies was good. The texts and handbooks utilised for obtaining ideas were already widely used and proven through numerous studies. It was in the application of the material from the texts to the actual implementation that the quality may have been affected. The professor had to work alone with only the assistance of the researcher and outside friends. The mutual adaptation between the professor's beliefs and how they influenced cooperative learning in this instance was something the professor determined was necessary based on the unique background of the students. This approach to change is supported by Fullan and Pomfret (1977), Hord and Huling-Astin (1986), and Saskatchewan Education (1992). Kohn (1992) however cautions against this as it increases the chances that cooperative learning will become too "diluted" and ineffective.

Implementation strategies. The variables affecting implementation strategies are: (1) staff development, and (2) monitoring and feedback (Fullan, 1983). There was no formal staff development regarding cooperative learning strategies prior to their implementation in the senior BScN class. There were however, occasional development sessions held within the university regarding teaching and learning. Attendance at these sessions was entirely optional for any professor. The use of the new cooperative learning teaching strategies was a personal endeavour which came about due to a desire to be more effective in teaching. This required the professor to be self-directed in all learning surrounding cooperative learning.

Monitoring and feedback are other variables affecting implementation strategies that were not utilised to their fullest. There was informal monitoring of the professor in action by the researcher, and feedback was then given to the professor. There were no formalised objectives or criteria to monitor, therefore the feedback was entirely subjective and its effectiveness is unknown.

Together, staff-development, and monitoring and feedback act to guide, teach, and support the change agent (the professor) through the innovation. The omission of these critical features of the change process has been demonstrated to risk the success of the outcome (Fullan & Stiegelbauer, 1991; Guskey, 1990; Hord & Huling-Astin, 1986; McLaughlin & Marsh, 1978). The lack of these factors did negatively affect the professor in the change process. While it was impossible to

estimate "what could have been" had these factors been present, the professor mentioned on at least two occasions how important full support would be to the ongoing implementation of cooperative learning strategies. One statement which the professor made demonstrates this:

> What I need in terms of cooperative learning is to communicate with like minds 'cause I think you generate new ideas and maintain the interest and the momentum and the enthusiasm. Find people that think alike who see this as beneficial and unique and find new ways of doing it.

Another variable affecting implementation, is time (Fullan, 1983). It is by far the most critical of the factors. The course ran for six hours per week for six weeks. Research suggests this to be an inadequate amount of time in which to become effective in an innovation and for the change process to be completed. The professor did not have time to evaluate student feedback and implement new strategies to aid weak students. While the professor was limited in how much could be done, a time span of one year, three years, or even five years would be more appropriate to complete the innovation and achieve positive results (Fullan, 1982; Fullan & Stiegelbauer, 1991).

District and school factors. In examining how district and school factors affected the implementation process, one has to keep in mind the university teaching system. There are no formal directives provided by administration on methods to use in the practice of teaching. Each professor is afforded the luxury of independent practice. As such, there was little to no

administrative or peer support that was utilised in the development and implementation of the curriculum change by the professor. The nature of the adoption decision was entirely personal, and was based on prior experiences, beliefs, learnings, and hopes for an improved learning atmosphere. As such, the professor was isolated in this curricular change endeavour.

The lack of administrative and school support led this professor to teach in isolation from colleagues. Again, the lack of leadership and colleagueship reduced the chances for professional development and collaboration, and therefore only negatively influenced the change outcome (McLaughlin & Marsh, 1978). The district and school factors can therefore be determined to have a profound effect on the development of, and later implementation of cooperative learning strategies in the classroom.

Extraneous factors. There were a number of identified extraneous variables affecting the implementation of cooperative learning strategies within the classroom. One important one was the presence of a researcher from the planning and development stages through to the evaluation stage. It is not known to what extent the presence of the researcher influenced implementation. Other identified variables affecting implementation are the assigned classroom, and the timetable of the students. The classroom which was assigned was small in size and sometimes cramped. This may have had an effect on the willingness of students to get involved in group activities. The timetable of

the students was very demanding (24 hours per week of classes), but was spread out so two courses (12 hours) ran at the beginning of the week and two (12 hours) ran at the end of the week. It was not determined what effect this demanding schedule had on the ability of the students to feel free to learn and to participate.

How did the Professor Implement Cooperative Learning Strategies?

In examining how the professor implemented cooperative learning strategies, one must re-consider all of the factors affecting implementation listed previously under the development of cooperative learning. The four factors in Box B, "(a) attributes of the program/model"; "(b) implementation strategies"; "(c) district and school factors", and "(d) extraneous factors" (Fullan, 1983) all influenced the ability of the professor to implement any change, including cooperative learning. These factors must be considered while assessing the degree of implementation (Box C), as they strongly influence the implementation phase (Fullan, 1983).

In determining the degree of implementation, one must examine the implementation phase or "its use in practice" (box C). First the essential component of the innovation must be outlined and defined.

The most important component in the implementation phase of the curricular innovation was the implementation of cooperative learning. Cooperative learning strategies in this case study were adapted from more conventional definitions of cooperative learning in that it was personal. This follows the

Mutual Adaptation approach of curriculum implementation (Fullan & Stiegelbauer, 1991; McLaughlin & Marsh, 1978; Snyder, Bolin & Zumwalt, 1992). The professor believed cooperative learning closely resembled personal beliefs of teaching and learning and defined it as "a sharing experience. It involves working in groups to achieve a learning goal." The professor identified the development of social skills and the learning of content as the goals of cooperative learning. The professor mentioned on many occasions that there were many aspects of cooperative learning that did not apply to all situations so the philosophy should be modified appropriately to meet the level and the needs of the people using it. This being the case, allowances were made for the senior level BScN students as the professor believed they already possessed a strong background in communication skills, group theory, and role theory. With this background, it was expected that the students already had the ability to participate responsibly and learn to be effective in their groupwork.

Another example of Mutual Adaptation which occurred to meet the needs of the students came about when the professor modified a cooperative learning strategy in content or form. Always the cooperative element was maintained, and the activity was then better suited to the learning topic or circumstance.

The next discussion measures actual practice to determine how it compared with intended practice. While the purpose of this section is to determine how faithful the user was to the intended use, this section shall outline the differences between

the professor's use of cooperative learning and the recommended requisites as outlined by Johnson and Johnson (1991). The reason for this is the professor's intent was to have the five essential elements of cooperative learning present within the learning situations, the difference being that the professor did not believe they needed to be structured as obviously as Johnson and Johnson have advocated. Again, this was how the professor adapted the curriculum to meet the unique learning needs of the student and is supported by research when done to meet the needs of learners (Saskatchewan Education, 1992) and often leads to successful outcomes (Fullan & Pomfret, 1977; McLaughlin & Marsh, 1978).

The five essential elements as outlined by Johnson and Johnson (1991), are: (1) positive interdependence; (2) face-to-face promotive interaction; (3) individual accountability; (4) social skills, and (5) group processing. The first essential element, positive interdependence, was indirectly structured in a number of activities. Each time the students were put into cooperative learning groups mutual learning goals were established. A list of complementary roles was discussed with the students at the beginning of the term but they were never assigned during any activities. The students were told instead they should be aware of anyone not participating or of anyone being overbearing and intervene appropriately. Joint rewards were not structured into activities as far as marks were concerned.

The next essential element of cooperative learning, face-to-face promotive interaction, was explained to the students at the beginning of the term. The students were encouraged to behave in this manner, and it was likened to using therapeutic communication skills. The professor kept the group size to 3 or 4 students and provided numerous situations where the students could practice this element. The students were encouraged to make use of the whole room and to rearrange their desks as necessary.

The third element, individual accountability, was structured within the course in that all students were required to complete individual assignments, individual tests, and be responsible for the content of the course. Students were also expected to explain their learnings to classmates.

The fourth element of cooperative learning is social skills. The students were reminded at the start of the term that they had theory and practical experience in leadership, decision making, communication, and conflict management skills. The students were told that they should be using these skills on a regular basis within their cooperative groups. When the good use of communication skills was noticed, the professor praised the students and specifically stated the skills which were observed.

The final essential element of cooperative learning is group processing. This was indirectly structured within the cooperative learning situations. The professor told the students how to process and told them they should be doing this

on a regular basis so they could continually improve their effectiveness. Actual times to process were not allotted for after each group activity, but rather, during base groups. The students were provided with a minimum of 10 minutes at the start and finish of each class to get into base groups and within that time they could discuss how effective they had been in their group interactions.

In summary, the cooperative learning of the professor differed from that of Johnson and Johnson (1991), mostly because: the actual structuring of the five essential elements was not consistent or not present; collaborative skills were not taught; there was no direct intervention by the professor if the students were having difficulty functioning within their groups, and there was little formal group processing.

There can be two possible interpretations to this adapted form of implementation. The first interpretation is that this adapted form of cooperative learning only served to water down the true intent of cooperative learning since it lacked its most basic premise-attention to social skills (Johnson, Johnson & Holubec, 1994; Kohn, 1992).

The second interpretation can examine not only the lack of attention to social skills, but the experience and knowledge level of the students, as well as the relative infancy of the innovation. Time is a factor which this change process is short on, as it was only studied for a six week duration as that was the length of the course. The identification of the need to attend to group process during the next course offering is

reasonable considering most change processes involve from three to five years (Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

How did the Professor Evaluate Cooperative Learning in the Classroom?

Outcomes. The final stage of the Implementation Perspective is to determine whether or not the outcomes were achieved (box D). The previous stages have interacted to produce a product. The product or outcome can be based on the whole program, or on one activity, in which case the feedback would be used to possibly alter further implementation of the program.

In determining the outcomes, one must examine whether or not the model was effective, and whether or not it was implemented correctly (Fullan, 1983). This can be measured through the examination of achievement, attitudes, behaviors, beliefs, or anything else which will support the conclusion.

In determining the outcome for this model, both the professor's and students' perspectives were examined. The professor observed many behaviors and attitudes indicating the implementation of cooperative learning strategies within the curriculum led to a positive outcome for most students. The high level of achievement by the students also supported a positive outcome. The professor observed most students: using positive social skills; sharing; working cooperatively; having fun; working hard; being supportive to one another; demonstrating care and concern for one another; taking

responsibility for their own and sometimes other's learning, and being self-directed. These behaviors indicated that students were capable of using their social skills, a hallmark of cooperative learning (Sapon-Shevin & Schniedewind, 1992), as well as being capable of exhibiting the behaviors as described by Bevis and Watson (1989), Johnson and Johnson (1994), and Cooper (1979). The professor also observed a few students having difficulty sharing, learning, working cooperatively, and using positive social skills. Student journals handed into the professor identified that these students did indeed learn from their experiences, but the quality and quantity of learning was not necessarily the same as other students. These students were unable to utilise their social skills effectively in their groups. This led to cooperative learning being unsuccessful for these students and is supported by the literature in that the use of positive social skills is paramount in utilising cooperative learning effectively (Johnson, Johnson & Holubec, 1994; Sapon-Shevin & Schniedewind, 1992).

Overall the professor viewed the outcome as positive, and believed the implementation was successful. The differences in student abilities and achievement was viewed as natural as the professor believes there can and must be different end points for different students.

The students' evaluation perspective of the outcome of the cooperative learning strategies in the course was generally positive. The students made many positive comments to support this such as: "I found it better than in other classes...I

think I learned more"; "I enjoyed it more...it's more fun"; "I'd say it'd (learning) be above average"; "Great! Best class!"; "it was always interesting...we were never bored"; "you don't feel so much that you're alone"; "I thought it was excellent"; "You don't feel overwhelmed by having to do everything on your own. Just knowing that someone else is there...", and "I thought _____ was a really good teacher". Those students who viewed cooperative learning as unfavourable attributed it to not matching their personal learning style or to their base group experience. One student who described her base group as "dysfunctional", stated "I wasn't very impressed at all (with the group)...the whole point of cooperative learning was totally missed because we did have such a dysfunctional group." Another student stated, "...my learning preference--I like the lecture style, and cooperative learning--it's just kind of different." Yet another student described her learning as "minimal", but declined to elaborate.

The students identified the following beliefs and attitudes indicating that the implementation of cooperative learning was successful: feeling accepted; wanting cooperative learning introduced in year I; active learning; learning surpassed expectation; students got to know one another better; good for self-esteem; it was a good/comfortable way to learn; felt encouraged to learn; a safe learning environment; positive learning; learning was reinforced, and it was fun. The following is a list of behaviors identified by the students indicating cooperative learning was successful: there was a lot

of sharing; students worked harder; students got more involved that usual; increased self-directedness; increased insight; increased use of reflection, and use of peer teaching. These behaviors are identified in the literature as the positive outcomes of cooperative learning or a caring curriculum (Bevis & Watson, 1989; Johnson, Johnson & Holubec, 1994; Johnson, et al., 1981; Kagan, 1994; Reid, Forrestal & Cook, 1989; Sharan, 1994; Slavin, 1995).

Students made some negative comments and they are as follows: "it didn't work"; "we did have such a dysfunctional group"; "group work is just a big hassle in fourth year", and "I believe in co-operation but for really important projects I prefer to work and learn independently", and "group work in not conducive in this environment".

Overall, it appears that there is favour both from students and from the professor in stating that the outcome of the program implementation was a positive one. In determining if the model was implemented correctly or even if the model itself was effective, all of the data would have to be evaluated. The fact that there was not a formal identification of goals leaves the beginning process somewhat weak. There were no measurable goals or objectives listed for the professor, just course goals and objectives for the students. It is therefore difficult to state that the model itself was effective. As well the adaptation (Fullan & Stiegelbauer, 1991) which occurred to the cooperative learning framework may have left students with weak social skills behind.

The method of implementation of cooperative learning strategies led to some very positive, anticipated outcomes. The fact that there were some students in total opposition to this position weakens the effectiveness of implementation of cooperative learning. While the mutual adaptation (Fullan & Stiegelbauer, 1991) which occurred had a positive effect on many students, it failed to account for a few students.

A positive outcome of the evaluation by the professor saw the decision made to place a greater emphasis on group process instead of task process in order to overcome the problem of poor utilisation of social skills and to improve the cooperative learning environment for all. Again, time was a critical factor, as one cannot learn to be efficient in six weeks, the process instead must take from three to five years (Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

While the Implementation Perspective model did not deal specifically with cooperative learning and its many nuances and forms, the model did allow the user or evaluator to define the curricular change in terms appropriate for his or her own use. Its generality allowed for easy adaptation to suit personal needs, beliefs, and practices.

A weakness in the model lay in the fact that it could not determine the adequacy of the adaptation which occurred in the implementation of cooperative learning. While the model can assist the developer if used from the beginning stages, it tends to favour the fidelity approach simply because it examines and compares actual practice with intended practice. Fullan (1983)

accounts for this by stressing that one must go beyond the factors which the model accounts for, and determine explanations for the differences found. He states, "the level of implementation as an explanatory factor in relation to outcomes is of course, only a first order explanation. The immediate next question is what factors account for differences in implementation in the first place" (p. 221).

In order to provide a pictorial representation of the implementation of cooperative learning within the senior BScN course, the observed, recorded, and verbal data have been summarised and inserted into Fullan's model Elements of Planned Change (1983). Previously Figure 2 portrayed the generic model. Figures 3, 4, 5 and 6 demonstrate how the change process occurred and how each of the boxes of the model interacted with one another. Each box has been enlarged to incorporate the data. At a glance one can view the proposed change and follow it through its implementation and evaluation.

1. How Did the Professor Develop Cooperative Learning Strategies?

I

Determining the Degree of Implementation

THE CHANGE

Defining the Change:

Cooperative learning will be used in combination with traditional teaching-learning methods to meet the learning needs of the students.
Students will exhibit philosophical and behavioral changes.
Students will value learning, be motivated to learn, freely participate, actively seek out new meaning, share insights and discoveries, gain expertise with their use of social skills, learn to problem-solve, become critical thinkers,and professional nurses.
The professor will gain confidence and expertise in the use of cooperative learning.

1) New Materials:
texts, ideas, researchers

2) Change in Structure:
Planning of cooperative structures
Base groups
Rearrangement of desks
Student-directed learning

3) Change in Teaching Approaches:
Base groups
Cooperative structures

4) New or Revised Beliefs
Personal beliefs of cooperative learning
Nursing student background
Professional practice

A

Figure 3. Elements of planned change (Fullan, 1983).

1. How did the Professor Develop Cooperative Learning Strategies?

2. How did the Professor Implement Cooperative Learning Strategies?

II

Explaining the Degree of Implementation

FACTORS AFFECTING IMPLEMENTATION

Factors related to implementation:

1) Attributes:
   a) Lack of clarity related to formal and specific goals
   b) Increased complexity of cooperative learning for students unfamiliar with weak social skills.
   c) Desired scope of change in student behavior not specifically pre-determined.
   d) Quality of materials good.

2) Implementation strategies:
   a) No formal staff development present, only personal desire to learn more.
   b) No formal monitoring and feedback except through researcher.
   c) Time was limited to 6 weeks.

3) District and school factors:
   a) Personal decision to implement cooperative learning.
   b) Lack of administrative and collegial support.
   c) Little collaboration regarding cooperative learning.

4) Extraneous factors.
   a) Presence of a researcher.
   b) Short 6 week course.
   c) Demanding student timetables.

B

Figure 4. Elements of planned change (Fullan, 1983).

2. How did the Professor Implement Cooperative Learning Strategies?

I

Determining the Degree of Implementation

ITS USE IN PRACTICE

Assessing the degree of implementation:

Adapted form of Cooperative Learning

-no teaching of social skills.
-no specific allowance for 5 requisites of cooperative learning.
-cooperative learning resembled professor's personal philosophy of teaching and learning.
-"a sharing experience. It involves working in groups to achieve a goal.:"
-cooperative structures used
-no intervention for students not working effectively within the framework.

C

Figure 5. Elements of planned change (Fullan, 1983).

3. How did the Professor Evaluate Cooperative Learning in the Classroom?

I

Determining the Degree of Implementation

OUTCOMES

1) Most students worked well using cooperative structures.
   Students achieved high marks.
   Students stated learning took place, "I think I learned more...", "the students do a lot of learning."
   Students stated they had fun learning and were active participants.
   Students supported one another, "We had a very supportive group."
   Students shared viewpoints "..not just hearing the teacher's view...you're open to more than just one view and you're allowed to express your own."
   Students experienced positive feelings related to cooperative learning, "...that makes you feel better when you're helping someone else."

2) A few students did not experience support, use positive social skills, experience positive interdependence, or increased learning. "Group work, relying on someone else...I don't want to say a waste of time but it takes a lot more time from... actual learning.
   Social skills and 5 requisites of cooperative learning were not taught or reinforced with students.

D

Figure 6. Elements of planned change (Fullan, 1983).

Chapter Six

Summary, Findings and Conclusions

Introduction

In this chapter, the summary findings of the study are presented under each research question. Final conclusions are drawn as well as implications for nursing education, and further research.

Summary of the Study

The purpose of this descriptive case study was to identify the ways Cooperative Learning strategies were used in a senior Bachelor of Science in Nursing course. The research questions asked were:

1. How did the Professor Develop Cooperative Learning Strategies?
2. How did the Professor Implement Cooperative Learning Strategies?
3. How did the Professor Evaluate Cooperative Learning in the Classroom?

This study took place over a six week period for the duration of a senior level BScN course. The data were collected through anecdotal records of the professor and the professor's teaching methods in the development, implementation and evaluation phases of the course; the effects of the teaching methods on the class; the professor's learning journal; debriefing sessions with the professor; the learning questionnaire completed by the professor (Appendix B), the Learning Questionnaire (Appendix C), the Group Evaluation Form

(Appendix D), the Individual Evaluation Form (Appendix E), and the Cooperative Learning Interview (Appendix F). These data were analyzed using the Implementation Perspective as described by Fullan (1983).

How Did the Professor Develop Cooperative Learning Strategies?

In developing cooperative learning strategies, a number of factors came into play. The professor decided that a change in teaching strategies was necessary. The professor then reflected upon the issues which were important in facilitating teaching and learning. The professor's strong epistemological beliefs influenced the type and quality of the strategies developed, the atmosphere created, and personal pedagogy. Cooperative learning strategies were chosen as the professor believed it most closely resembled personal ideology and andragogy in that it allowed both students and the professor to play an active role in the teaching and learning process. This finding is supported by Brown and Rose (1995), Mann (1990), and Bird (1986), in that one's personal presence is reflected in one's teaching style and manner.

The cooperative learning model utilized by the professor was modified in that social skills were not taught but their use was expected. The professor accounted for the students experiences and expected expertise in this area and adapted that portion of the framework. Again, personal beliefs were a key factor in influencing how the curriculum was developed, as well as professional beliefs and practice. This is an example of mutual adaptation (Berman, 1981; Bird, 1986; Fullan & Pomfret,

1977; Fullan & Steigelbauer, 1991; McLaughlin & Marsh, 1978; Saskatchewan Education, 1992; Snyder, Bolin & Zumwalt, 1992), where the curriculum is adapted and modified according to the personal practice and needs of the user.

In planning for strategies, achievement measures, and activities, the professor enlisted assistance from outside friends and the researcher. As there was no school initiative in adopting and implementing cooperative learning, the professor sought advice, guidance, feedback, collaboration and support from alternate sources on a continuing basis throughout the six week term.

This meager support which the professor had throughout the change process would be considered inadequate by Brown and Rose (1995), Fullan (1991), Fullan and Stiegelbauer (1991), Hord and Huling-Astin (1986), and McLaughlin and Marsh (1978). All of these researchers support the view that curricular change requires leadership, staff development, feedback, administrative support, and colleagueship to increase the likelihood that the change will be successful.

The conclusions which can be drawn when answering the question, How did the Professor Develop Cooperative Learning Strategies? are as follows:

1. Personal beliefs of the professor regarding teaching, learning, and cooperative learning played a dominant role in the development of cooperative learning strategies.
2. Mutual adaptation occurred during the development phase of the teaching strategy in an attempt to match the cooperative

learning framework with personal and professional beliefs and student needs.

3. Support from colleagues, staff development and feedback are required on an ongoing basis throughout the development process.

How did the Professor Implement Cooperative Learning Strategies?

In examining this second research question one must again look at the professor's beliefs regarding teaching, learning, and cooperative learning. These beliefs had a profound impact upon how cooperative learning was implemented. The professor followed the plan of not teaching social skills. The professor created a trusting, supportive atmosphere within the classroom, structured cooperative learning activities, stated expectations clearly, shared power with the students, encouraged learning, was flexible, and was available to students.

Mutual adaptation occurred not only where social goals were concerned, but where some activities were concerned as well. If an opportunity was discovered where an activity could be modified while maintaining cooperative elements, and better meeting the needs of students, then it was done.

Throughout the implementation of cooperative learning within the curriculum, the professor continued to seek advice and input from the researcher regarding her evaluation of the implementation of the cooperative learning strategies and the effect there of on the class. The professor also continued to discuss cooperative learning with outside friends. These findings support the view that support in the form of feedback

and collaboration are required to enhance the effectiveness of the implementation of a new curriculum (Brown & Rose, 1995; Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

The conclusions drawn from the second question, How did the Professor Implement Cooperative Learning Strategies? were:

1. Personal beliefs of the professor regarding teaching, learning and cooperative learning played a dominant role in the implementation of cooperative learning strategies.
2. Mutual Adaptation occurred during the implementation of cooperative learning within the curriculum due to the unique philosophy, goals, and needs of the user.
3. The classroom climate and teaching style of the professor reflected personal beliefs and personality.
4. Continued support in the form of development, collaboration, and facilitation are required throughout the implementation phase.

How did the Professor Evaluate Cooperative Learning in the Classroom?

In examining this final research question the professor reflected upon several variables. Each student's needs and abilities were taken into consideration, by allowing for and accepting different outcomes for each student. The professor also examined the use of social skills, the quality of learning, sharing, caring, self-directedness, creativity, cooperativeness, and achievement in evaluating the effectiveness of the curriculum. The professor also reviewed anonymous research questionnaires and interview comments from the students and

received comments from other professors. The professor did have concerns about a few students who did not appear to participate in cooperative learning group work. The professor sought explanations through collaboration with the researcher and personal friends for this behavior and attempted a few strategies to try and make a difference. This again supports the view that the process of monitoring, feedback, development and support is ongoing throughout all phases of the change process (Fullan & Stiegelbauer, 1991; Guskey, 1990; Hord & Huling-Astin, 1986; McLaughlin & Marsh, 1978).

The final evaluation of the cooperative learning strategies within the curriculum was positive. The professor determined that since all of the expected results of cooperative learning were being achieved by most students, then both the professor and the new teaching strategy were working well. After consulting feedback from the students who did not use the cooperative learning framework well, the professor decided that in the next course offering the following year, there would have to be more attention given to the use of social skills and group process in order to enhance the effectiveness of cooperative learning for all students.

The conclusions drawn from the final question, How did the Professor Evaluate Cooperative Learning in the Classroom? are as follows:

1. Personal beliefs of the professor regarding teaching, learning, and cooperative learning played a dominant role in the evaluation of cooperative learning strategies.

2. Effective evaluation is a dynamic process throughout the change effort and not a one time event.

3. Evaluation requires the continuation of support and collaboration with others to increase its effectiveness.

Factors Affecting Implementation

In reviewing the conceptual framework by Fullan (1983) the Implementation Perspective, it is apparent that Box B, or the factors affecting implementation were only briefly touched upon in the three research questions. The reason for this is that the factors affecting implementation permeate the entire change process, and interact in a dynamic fashion so they cannot be separated into one phase or another. For this reason, it was decided that they should be dealt with separately.

The factors affecting implementation throughout the change process help to "explain the degree of implementation" (Fullan, 1983, p. 221). They are listed as:

(a) Attributes of the program/model

(b) Implementation strategies

(c) District and school factors

(d) Extraneous factors (Fullan, 1983, p.222).

The first category, attributes of the model is concerned with the clarity of the model, its goals and objectives, the degree of change required, and the materials. This entire area appears to have again been influenced by the personal and professional beliefs of the professor, which resulted in the adaptation of cooperative learning strategies. The professor stated,

> this is a professional course...but the bottom line is that we graduate generalists...but at some point our students do different things--the expectation is that they do different things...That's one of the big differences that you almost breed in the students that they will be doing something different and more, that they will be contributing to the profession. So we'll breed in that they should be looking at options and alternatives...

Again when discussing cooperative group work, the professor made this comment to imply the students had different professional expectations regarding social skills:

> It's a social thing but at this level I would say it is even a professional thing. I would look at it as a professional skill not as a social skill because there is a different expectation with their different ability to work in group.

The professor established the goals and objectives based upon a desired behavior and atmosphere for the classroom. The clarity of the model was subjective, as were the materials, as the professor chose only those which closely matched the professor's style.

The goals and objectives, the complexity and clarity of the model, and the scope of change required were not clearly documented, perhaps related to the fact that this was a solo change effort and both were already clear in the mind of the professor. This finding is in opposition to Fullan and Pomfret (1977), and McLaughlin and Marsh (1978), who advocate clearly

defined goals and objectives in order to increase the likelihood of achievement for both teachers and students.

Staff development, monitoring, and adequate time were critical factors to the success of the change initiative, yet none were utilized to the extent they could have been. This was due in large part to the lack of support sought from faculty and administration. The change process was a solo effort, with the guidance and support of only the researcher and outside friends. If the faculty could have adopted this change as a united group, more support could have been realized, greater timelines could have been allotted, and greater discussion would have resulted. This support alone could have increased the chance of positive outcomes occurring in the implementation of cooperative learning, and in the continuation of effort by the professor (Brown & Rose, 1995; Fullan & Stiegelbauer, 1991; Hord & Huling-Astin, 1986).

Other than the students' six week timetable which resulted in a short period of time for the implementation of cooperative learning, it is not known what effect extraneous factors had on the change process. Since researchers advocate a period from two to five years for effective implementation to occur (Fullan & Stiegelbauer, 1991), the implementation of cooperative learning in the senior BScN course did not have an adequate amount of time and therefore true and accurate evaluation could not occur. The one positive aspect of the six week timetable was that the group met at twice the normal rate (6 hours per week compared to the normal 3 hours). This could possibly have

led to closer relationships developing, thereby increasing the students' liking of the course and thus the learning. The other extraneous variables such as the presence of a researcher, a cramped classroom, and a demanding schedule probably had an effect but it was not measured for the purpose of this study.

Conclusions

The final conclusions to be drawn from all of the data gathered through the three questions guiding the research are presented as follows:

1. Personal beliefs of the professor regarding teaching, learning, and cooperative learning play a dominant role in the development, implementation, and evaluation of cooperative learning strategies in the classroom.

2. The professor utilized the process of Mutual Adaptation (Fullan and Pomfret, 1977) throughout the development, implementation, and evaluation phases of teaching strategies in an attempt to match personal beliefs, and student needs with curriculum.

3. A network of support including the school, faculty, a facilitator, collaborators, and trainers is required throughout the development, implementation, and evaluation phases of the cooperative learning teaching strategy.

4. Effective evaluation is not an end-point, but an ongoing process throughout the development, implementation, and evaluation phases of the change process.

5. Effective development, implementation, and evaluation of a curricular innovation cannot occur over a six week period, but must be allowed to evolve over an extended period of time.

6. The classroom climate and teaching style of the professor reflect individual beliefs and personality.

While this study was not of sufficient duration to adequately demonstrate the entire process of development, implementation, and evaluation while undertaking curricula innovation, the findings are supported extensively in the literature.

Implications for Future Research

The many questions and ideas which arose throughout the duration of the study are outlined below as questions that would guide future research. They are as follows:

1. To what degree do the professional and philosophical ideology of the professor affect curricular change and implementation?

2. What effect would continued support form a researcher and facilitator for five years have on the development, implementation, and evaluation phases of a cooperative learning teaching strategy within the curriculum in a BScN course and program?

3. What effect would support from colleagues and administration have on the development, implementation, and evaluation phases of a cooperative learning teaching strategy within the curriculum in a BScN course and program?

4. What effect would acceptance and adoption of

cooperative learning as teaching strategies within the school of nursing have on the development, implementation, and evaluation phases of the cooperative learning teaching strategies within the curriculum?

Implications for Nursing Education

The availability of current research data on a curricular innovation will have a number of positive implications for nursing educators and nursing education. The first major implication is that other nurse educators will become aware that change in nursing curricula is possible and is occurring. This in itself may propel others to follow the lead of this professor. The second implication for nurse educators is that they will have a relevant case study to examine and critique, thereby learning from the weaknesses inherent in this change effort.

A third, important implication involves the possible adoption of cooperative learning within the curriculum by other nursing professors and perhaps schools of nursing. This would allow for the positive effects of this teaching-learning framework to be realized by many nurses, and ultimately their clients.

Summary

The case study to determine how a professor developed, implemented, and evaluated cooperative learning strategies in a BScN course revealed interesting results. The finding that the professor's personal beliefs regarding teaching, learning, and cooperative learning played a dominant role in the development,

implementation, and evaluation of cooperative learning strategies is supported in the literature. The second finding indicated that the process of Mutual Adaptation (Fullan and Pomfret, 1977) directly affected the development, implementation and evaluation of cooperative learning strategies. The third finding indicated that a support network including the school, faculty, facilitation staff, collaborators, and trainers is necessary throughout the development, implementation and evaluation phases of cooperative learning strategies. This finding is supported in the literature. The fourth finding indicated that effective evaluation is not an end point but an ongoing process throughout the development, implementation and evaluation phases of the change process, and is supported in the literature. The fifth finding indicated that effective development, implementation and evaluation of a new curriculum cannot occur over a six week period, but must be allowed to evolve over an extended period of time. This finding is supported by Fullan and Stiegelbauer (1991), who advocate two to five years. The sixth finding indicated that the classroom climate and teaching style of the professor reflected individual beliefs and personality, and is supported in the literature.

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Appendix A

To the students of the senior BScN course:

Welcome back to school. My name is Michelle Symanyk-Mace, and I am currently working on a thesis in the Master of Education program at Lakehead University.

The purpose of this thesis is to determine the process of how teachers develop expertise in developing, implementing, and critiquing the effectiveness of cooperative learning strategies within the classroom.

The professor will use cooperative learning strategies to present this course, and will teach you how to work effectively within this framework.

In my role as researcher, I will be making anecdotal records of the professor's teaching and facilitating of the class, as well as making anecdotal records of the cooperative skills utilised by students within the cooperative groups. All observations of teaching, discussions, group or class activity and dynamics, will aid myself and the professor in critiquing the effectiveness of the teaching and learning strategies utilised throughout this course. This research project will not have any impact on your status in this course.

Students who give consent to take part in this study will then be <u>randomly</u> selected to take part in the study. Those students who are <u>randomly</u> selected will be assigned an identification number to ensure confidentiality. These students will be asked to complete from three to five short

questionnaires about the class, and have a short interview. Videotaping of professor's teaching will occur on two occasions, during week II and week V, and will be analysed by the professor and myself. This will aid us in more accurately evaluating the teaching and learning processes. The videotape will be erased after it has been analysed.

All information that is collected through my own anecdotal records of group activity and dynamics, as well as through questionnaires will be shared with the professor in aggregate form subsequent to each class during debriefing sessions with the professor. All of this information will be utilised to aid the professor in teaching and will give me insight into teaching-learning dynamics.

I would like to stress that participation in this study is completely voluntary, and that all students may feel free to withdraw at any time without implication for their evaluation in the course. The data collected will be completely confidential, and will be greatly appreciated. If you have any questions or concerns, please do not hesitate to call me at XXX-XXXX.

Thank you in advance for your co-operation, and enjoy the course.

Sincerely

Michelle Symanyk-Mace

I, _____ consent to be a participant in the research study being conducted in the senior BScN course. I understand that I will be asked to complete 3 to 5 short questionnaires, and be interviewed. I understand that this is a voluntary participation, and that I may feel free to withdraw at any time without any implication for how I am evaluated in the course.

_____ _____

signature date

I, _____ do not consent to be a participant in the research study being conducted in the senior BScN course. I understand that this decision will have no implication for how I am evaluated in the course.

_____ _____

signature date

I do____ do not_____ consent to be videotaped during classes where the professor's teaching will be videotaped. I am aware that if I do not consent to be videotaped, I will be seated in an area of the classroom where I will not be videotaped.

Appendix B

Pre-Questionnaire for Professor

Teaching to me is:

Learning to me is:

Cooperative Learning is:

A good learning environment is:

A teacher's role in the classroom is:

A student's role in the classroom is:

My teaching strengths are:

My teaching weaknesses are:

My learning strengths are:

My learning weaknesses are:

My personal teaching-learning goals are:

This course:

This year:

Three years:

I need the following resources and support to achieve my goals:

I will begin to gather this support in the following manner:

I will monitor my progress by:

I will have reached my goal when:

I will celebrate by:

Appendix C

Pre-class gender M F

age <20 21-25 26-30 31-35

36-40 41-45 46-50 51-55 56-60

student group generic post-basic

racial minority Y N

Learning to me is...

Learning is facilitated for me by...

A good learning environment...

Good teachers...

Poor teachers...

I ☐am/☐am not in control of what I learn.

Explain...

I am responsible for my learning...

Explain...

I could improve my learning skills by...

I am a good teacher because...

I work best ☐competitively ☐independently

☐cooperatively

Explain...

Appendix D
Group Evaluation Form

Identification:_____ Date:_____
You may use this form to discuss and evaluate how well your group co-operated and worked together. Indicate your feelings with check marks and comments in the spaces provided.

	YES	NO	COMMENTS
COMMUNICATION			
1. Did all group members feel free to talk?			
2. Was there any interrupting or cutting off?			
3. Did people listen to one another?			
4. Were group members asked to expand a point they were trying to make?			
PARTICIPATION			
5. Did all members have opportunities to share their ideas?			
6. Did any members dominate the discussion?			
7. Were group members sensitive to the needs and concerns of other group members?			
DECISION MAKING			
8. Did the group consider a number of ideas before coming to a decision?			
9. Did everyone agree to the decisions that were made?			
10. Was there any organization in the group?			

ANY ADDITIONAL COMMENTS?

_____

_____

_____

Note. From Small Group Work in the Classroom (p. 51), by J. Reid, P. Forrestal, & J. Cook, 1982, East Perth, WA: Education Department of Western Australia.

Appendix E

INDIVIDUAL EVALUATION FORM: MY REACTION TO GROUP WORK

Identification:_____ Date:_____
You may use this form to evaluate how well your group worked together, and how well you feel you worked with your group.

TODAY, AS A GROUP, WE:	YES	NO
-accomplished our goals	____	____
-helped each other add or clear ideas	____	____
-felt good about working together	____	____

AS A GROUP MEMBER, I:	Mostly	A Little	None
-contributed ideas	_____	_____	_____
-encouraged others	_____	_____	_____
-clarified ideas	_____	_____	_____
-summarized ideas	_____	_____	_____
-recorded ideas	_____	_____	_____

Something I did to make the group feel better about working together was:_____
_____

Something I did to make the group more successful in doing its work was:_____
_____

Something I'll work on next time is:_____
_____

THESE ARE THE NAMES OF OTHER GROUP MEMBERS WHO:
-added ideas_____
-encouraged other_____
-summarized or clarified_____
-kept records_____
-were very quiet_____

Note. From Co-operation in the Classroom (p. 239) by D.W. Johnson and R.T. Johnson, 1984, New Brighton, MN: Interaction Book Company. Copyright 1984 by David W. Johnson. Reprinted by permission.

Appendix F

Evaluation of teaching

What I thought Worked	What to watch out for	Evaluation/Alternate Suggestions

Appendix G

Post-class Discussions with Professor

I have addressed my goals for this course by:

I have been effective in creating a learning environment by:

I would like to improve the learning environment by:

I have been effective in my teaching role in this class by:

I need to improve in my role as teacher by:

I have communicated effectively with the students by:

My weakness in communicating with the students is demonstrated by:

I empower learning in the students by:

I block learning in the students by:

I demonstrate respect and trust toward the students by:

I do not demonstrate respect and trust toward the students because:

I am effectively implementing a cooperative learning environment within my classroom because:

I am being ineffective in implementing a cooperative learning environment because:

I am supported in my teaching role by:

I require further support in the form of:

I do (not) feel I can discuss my teaching experiences. Why? Why not?

Appendix H

Post-Course Interview

1) How would you describe your learning throughout this class?

2) How would you compare your learning in this class and your learning in other classes?

3) How would you describe cooperative learning?

4) What are the best features of cooperative learning?

5) What are the features of cooperative learning that you would like to change?

Author Notes

I, David W. Johnson (print name), give permission to Michelle Symanyk-Mace to utilize the Group Evaluation form in Johnson, D.W. & Johnson, R.T. (1984). Cooperation in the classroom. New Brighton, MN: Interaction Book Company, p. 239, as a data collection tool.

David W. Johnson
signature

6/22/05
date

witness

Jun 23, 05
date

Permission was granted by Jonathan Cook on July 2, 1995 via telephone to utilize Small Group Work in the Classroom (p. 51) by J. Reid, P. Forrestal and J. Cook, 1982, East Perth, WA: Education Department of Western Australia. in this research thesis.

IMAGE EVALUATION TEST TARGET (QA-3)

150mm

6"