AN EVALUATION OF COOPERATIVE LEARNING IMPLEMENTATION IN THE CLASSROOM

by

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Abstract

This study examined how Cooperative Learning was being implemented by teachers in one board of education. Cooperative Learning is an instructional strategy which involves students working together in carefully designed groups. The academic and social benefits of Cooperative Learning are well documented but there is a lack of information on its prevalence in classrooms. This study focused on the following questions:

How are teachers using Cooperative Learning in their classrooms?

What difficulties are they experiencing?

How will/have they resolve(d) these difficulties?

The data for this study were collected through questionnaires and interviews that were developed from the Concerns-Based Adoption Model. This model of change focuses on the change from the point of view of the person undergoing the change. The process of data analysis involved organizing the data into reoccurring themes.

From this study's findings, it appears that few teachers in this board had fully implemented Cooperative Learning in their classrooms. This study provided valuable insight into the difficulties that they were experiencing. These difficulties fell into 3 main categories: educational climate, teaching assignments, and Cooperative Learning itself.

The teachers provided valuable suggestions to help them better implement Cooperative Learning into their classrooms. They were aware of what Cooperative Learning should look like and overwhelmingly suggested that more support be made available to them.

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CHAPTER 1

Introduction

The last 30 years have witnessed many educational systems being subjected to numerous attempts at planned educational change (Fullan & Stiegelbauer, 1991). Despite all that is known about change and how to achieve it, successful, sustained educational change seldom happens (Hargreaves, 1997). The implementation of new programs and teaching strategies is a concern as it "fails many more times that it succeeds" (Fullan, 1992, p. vii). Fullan and Stiegelbauer (1991) state that the main reason for this is that the implementation process has concentrated on "product development legislation" and other "on-paper changes" rather than on the people involved in the change. Their involvement is essential for change to occur.

In 1993, the school board, which is the focus of this study, implemented a plan to initiate interested teachers into Cooperative Learning. This instructional strategy, where students learn in carefully designed groups, is not new. Since the turn of the century, the importance of small-group learning has been explored and in the last 30 years Cooperative Learning methods, strategies, and applications have been highly researched (Slavin, 1995).

Background

The school board's implementation plan began with the search for teacher-volunteers who would be willing to become facilitators in Cooperative Learning for the board. During the summer of 1993, six teachers volunteered and attended a three-day Cooperative Learning institute given by another board. During the winter of 1994 based on the one that they had attended, these six individuals planned the delivery of a Cooperative Learning workshop involving two full days and two half days (See Appendix B). Although all six facilitators would be present at every session, each

one chose an area of expertise, based solely on interest, for presentation to the teachers in the board's workshops.

Participation in the board's workshops was open to the teaching staff of the board, on a voluntary basis. From the spring of 1994 to the winter of 1997, the board offered a total of five workshops and introduced Cooperative Learning to 172 teachers or 34% of its teaching staff.

A Personal Ground

The reason for undertaking research in this area was personal. This researcher was one of the six teachers who volunteered to become facilitators in Cooperative Learning for the board. I am currently teaching at a senior elementary school which has a teaching staff of 21. I have introduced Cooperative Learning to 13 of these staff members, including my principal. However, from my observations and from conversations with the staff, only six of them are currently using Cooperative Learning in their classrooms. The principal of the school frequently includes Cooperative Learning strategies in staff meetings. This is usually met with a resounding "Why must we play these stupid games?", "Let's just get on with it!" and "Worthless group work again!" This experience is quite disillusioning and was the initial driving force behind this study.

The Purpose of the Study

The purpose of this study was to investigate the implementation of Cooperative Learning in the classrooms of those who have attended one of the board's workshops. The following research questions guided the study:

How are teachers using Cooperative Learning in their classrooms?

What difficulties are they experiencing?

How will/have they resolve(d) these difficulties?

Definition of Terms

For the purpose of this study, the following definitions apply:

The Concerns-Based Adoption Model, often referred to as CBAM, is the framework from which this study emerged. CBAM investigates change from the point of view of the "changee", the people who undergo the change (Loucks, 1983).

Cooperative Learning is defined as an instructional strategy where students work together in heterogeneous groups to learn by encouraging and helping their teammates, and hence the whole team, to excel (Slavin, 1995). Cooperative Learning lessons are structured to contain five basic elements: individual accountability, social skills, positive interdependence, face to face interaction, and group processing.

Implementation is the process of putting into practice an innovation new to the people attempting it. "It refers to what really happens in practice as opposed to what is supposed to happen" (Fullan & Stiegelbauer, 1991, p. 9).

Innovation Configurations is a dimension of the Concerns-Based Adoption Model. It involves identifying and describing in clear, operational terms what an innovation will look like once it is implemented. Innovation Configurations was used in this study to help define the key characteristics of Cooperative Learning and their acceptable and unacceptable variations.

Levels of Use is a dimension of the Concerns-Based Adoption Model. It describes in operational terms what a user of an innovation is doing. Eight different levels of use have been identified which focus "on the behaviors that are or are not taking place in relation to the innovation" (Hall & Hord, 1987, p. 81).

Teacher inservice is defined as "efforts to improve teachers' capacity to function as effective professionals by having them learn new knowledge, attitudes or skills" (Gall & Renchler, 1985, p. 6).

Limitations

The participants of this study volunteered to participate in the board's Cooperative Learning workshops.

The participants of this study volunteered to participate in the study.

The researcher was a Cooperative Learning facilitator for the board and therefore, the researcher trained all respondents, most of whom are her colleagues.

The study is specific to one board of education which limits its generalizability.

Delimitations

The study involved one board of education.

The tools developed for this study are specific to the Cooperative Learning workshop offered by the board.

Assumptions

It was assumed that the participants were truthful in their answers. It was also assumed that the researcher, being an active participant in the workshops, utilized the methods outlined in the methodology to minimize her biases so as not to affect the outcome of the study.

Significance of the Study

The significance of this research is twofold. This research will provide information on the implementation of Cooperative Learning in the board. On a larger scale, it will provide information on what kinds of difficulties teachers may encounter in the implementation of Cooperative Learning in their classrooms.

Outline of the Study

This study is divided into five chapters. Chapter One is an introduction to the study. The reason for undertaking research in this area is given and the purpose of the study is explained.

Included in Chapter One are definitions, limitations and assumptions.

Chapter Two reviews the related literature. Cooperative Learning, its components, models, effects and prevalence are discussed. The implementation of change and the traditional staff development workshop are explored. Factors that affect change are identified. Finally, the Concerns-Based Adoption Model (CBAM) is examined. Six assumptions about change are identified and the CBAM dimensions of Stages of Concern, Levels of Use and Innovation Configurations are considered.

Chapter Three explains the methodology followed to execute this study. The design of the study, to investigate the implementation of Cooperative Learning, was developed using the theoretical framework of CBAM. The data collection is both quantitative and qualitative in nature. The role of the researcher is described as the researcher was an active participant and a facilitator in the board's workshops.

In Chapter Four, the findings are presented. The initial sample and the number of returns are discussed. Descriptive statistics give an overview of the final sample. The remainder of the chapter discusses the findings in four sections: Parts I and II of the questionnaire and Parts I and II of the interview.

Chapter Five summarizes the study. The major research questions and the research instruments are discussed. Recommendations are made and suggestions for further research are presented.

CHAPTER 2

Literature Review

The literature review focuses on three areas: Cooperative Learning, the Implementation of Change, and the Concerns-Based Adoption Model of Change. In the first part, the different models of Cooperative Learning and their components are discussed. Research illustrating the academic and social effects of Cooperative Learning is outlined and Cooperative Learning's prevalence in the classroom is presented. In the second section, the implementation of change is examined. The short-comings of the traditional staff development workshop are discussed and factors that affect implementation of change are identified. The exploration of the Concerns-Based Adoption Model (CBAM) is the third focus. Six assumptions about change, which are at the heart of CBAM, are discussed and then the CBAM dimensions of Stages of Concern, Levels of Use and Innovation Configurations are explored.

Cooperative Learning

Cooperative Learning is "the instructional use of small groups through which students work together to maximize their own and each other's learning" (Johnson, Johnson & Holubec, 1994, p. 4). Working cooperatively in the classroom is not new. In the early 1900's Dewey advocated the use of small groups to enhance students' learning (Abrami, Chambers, Poulsen, De Simone, D'Apollonia & Howden, 1995). Although cooperation in the classroom has existed for many years, Slavin reports that it has only been in the last 30 years that "research on specific applications of cooperative learning to the classroom" has begun (cited in Gartin & Digby, 1993, p. 8).

The last two decades have witnessed the development of three major schools of Cooperative Learning: Learning Together, The Structural Approach, and the Curriculum Specific Packages. All

three are based on the principles of positive interdependence, face-to-face interaction and individual accountability. Positive interdependence is at the heart of Cooperative Learning. It exists when all group members realize that each person's efforts benefit her/himself as well as the group. The group members all need each other in order to attain the group goal. Individual accountability is achieved when the group is accountable for reaching its goals and every member of the group is accountable for doing his or her fair share. Face-to-face interaction implies that the group works together, encouraging one another, in close proximity, to achieve group goals.

The difference between Learning Together, The Structural Approach and the Curriculum Specific Packages lies, most notably, in their relation to curriculum.

Learning Together, developed by Johnson, Johnson and Holubec (1994), is a conceptual framework for applying Cooperative Learning to any subject area and to any grade level. It focuses on five elements: positive interdependence, individual accountability and face-to-face interaction, group processing, and social skills. These five elements must be present in every lesson. In group processing, group members reflect on how well they accomplished their tasks, on how well they used their skills to do so, and on targeting improvements. In *Learning Together*, social skills are an essential part of Cooperative Learning. Members learn interaction skills that enable the group to function effectively. Every *Learning Together* Cooperative Learning lesson has specific academic and social skill objectives.

The Structural Approach was developed by Kagan (1993). Whereas *Learning Together* provides one structural design for Cooperative Learning lessons, The Structural Approach offers a variety of content-free activity structures that teachers can choose from (Abrami et al., 1995). Kagan developed the key concept of "structures" as a way of organizing the interaction among students in a classroom. Each structure contains a series of steps. For example, *Think-Pair-Share*

(Kagan, 1993) is a structure where partners think privately about a question and then discuss their responses with one another. *Roundrobin* (Kagan, 1993) is a structure where group members each contribute to a discussion in a sequential fashion. *Jigsaw* (Kagan, 1993) is a more complex structure where each member of a group becomes an expert in one aspect of a topic. Together with experts from other groups, the students learn their area of the topic. Once the area has been mastered, the students, now "experts in their area", return to their "home base" groups and teach each other what they have learned. The content of a lesson is delivered via one or several of these structures.

The Curriculum Specific Packages are content bound. They contain one or more structures combined with curriculum material designed for Cooperative Learning. Slavin (1995) and his colleagues at John Hopkins University developed Team Accelerated Instruction (TAI) and Cooperative Integrated Reading and Composition (CIRC) in the mid-80's. TAI was designed for the teaching of mathematics in grades 2 through 8. Students work in cooperative groups, taking on management and checking tasks as they progress through a specific set of instructional materials. CIRC was developed for reading and writing in grades one through eight. It consists of three principal elements: basal-related activities, direct instruction in reading comprehension, and integrated language arts and writing. It also has its own manual and materials. These two methods incorporate team rewards, individual accountability, and equal opportunities for success (Abrami et al., 1995). Finding Out/Descubrimiento (FO/D), originally designed by DeAvial and Duncan in the 80's (cited in Slavin, 1995), and further developed by Elizabeth Cohen in the mid-80's (cited in Slavin, 1995), is an activity-based approach to math, physics and chemistry. This method "involves students in small-group, hands-on science activities directed toward discovery of important scientific principles" (p. 128).

Academic Benefits of Cooperative Learning are well documented. Johnson, Johnson and Holubec (1994) have found nearly 600 experimental and over 100 correlational studies comparing cooperative methods to competitive and individualistic ones. The same authors state that, compared to competition and individual work, cooperation in the classroom yields higher achievement and greater productivity by low, average and high ability students.

Slavin (1995) echoes these findings. He conducted a review of Cooperative Learning studies that compared cooperative learning methods to non-cooperative learning ones using control groups. Of the 90 studies which met his strict inclusion criteria, 64% of them favoured Cooperative Learning for achievement. Four *Learning Together* Cooperative Learning studies (Kambiss, 1990; Humphreys, Johnson & Johnson, 1982; Meadows, 1988; Yager, Johnson, Johnson & Snider, 1986) were examined by Slavin. Three of them showed statistically significant effects favouring Cooperative Learning. The first, conducted by Humphreys, Johnson and Johnson in 1982, compared *Learning Together* methods to competitive and individualistic ones in a grade 9 physical science class. The post-test and retention results favoured the *Learning Together* methods. The second, conducted by Yager, Johnson, Johnson and Snider in 1986, compared *Learning Together* methods to individualistic ones in the subject area of transportation with grade 3 students. The post-test and retention results also favoured the *Learning Together* methods. The third, conducted by Kambiss in 1990, compared the teaching of spelling via *Learning Together* methods to those of a control group, using two grade four classes. The results were statistically significant, favouring the *Learning Together* methods.

More recently, Punch and Moriarty (1997) compared the effects of cooperative and competitive learning environments on behavior, self-efficacy and achievement at a grade 5 level, in the area of social studies. After ten weeks, the cooperative learning environment yielded a significantly higher mean for achievement than the competitive one. Similarly, Gillies and Ashman

(1997) conducted a 12-week study comparing grade 6 children trained in cooperative learning to an untrained control group. The results indicated that the gains made by the medium ability children were significantly positive and gains made by the lower and higher ability children were, although not statistically significant, greater. Susman (1998) reviewed studies that compared Cooperative Computer-Based Instruction (C-CBI) to individual Computer-Based Instruction (I-CBI). Only 6 of the 36 studies, however, reported actual training in Cooperative Learning. The mean effect size was higher in these six studies.

Research has also documented many **Social Benefits of Cooperative** Learning. Students who participate in Cooperative Learning activities tend to have a more positive attitude towards school (Slavin 1991, 1995) as well as higher self-esteem (Lyman, Foyle & Azwell, 1993; Slavin, 1995). According to Slavin (1995), Cooperative Learning's effect on self-esteem makes sense because Cooperative Learning affects two of the most important components of one's self-esteem: the feeling of being well-liked and the feeling of doing well academically. Furthermore, Johnson, Johnson and Holubec (1994) and Slavin (1991, 1995) report a growth in positive relationships among students. This is especially important when the students in question are of different ethnic backgrounds as Cooperative Learning has been linked to prejudice reduction (Friedland, 1994; Schniedewird, 1996; Slavin, 1995). In reporting on suggested avenues to better service-learning programs for youth, Sausjord (1997) advocates the use of Cooperative Learning as a way to improve racial and ethnic relations.

Cooperative Learning has also been found to benefit the teacher-student relationship. Hertz-Lazarowitz and Schachar (1990) conducted a study comparing teachers' verbal behavior in a traditional classroom to those in a Cooperative Learning one. These authors found that when teachers switched from the former to the latter, their speech patterns changed from a formal pattern

to that of an informal one. This in turn affected the interaction between the teachers and their students, which moved from a nonintimate interaction to an intimate one.

Teacher Testimonials of Cooperative Learning. Much is also being written by teachers themselves who attest to the academic and social benefits of Cooperative Learning. For example, Augustine, Gruber and Hanson (1989/1990) have been using Cooperative Learning for more than ten years in their classrooms and have witnessed improved achievements in a variety of curriculum areas. When using cooperative spelling groups to teach spelling, these authors have observed an improvement in individual spelling scores, "in some cases increasing from 40 percent accuracy to 100 percent accuracy" (p. 6). Furthermore, this increase in achievement has been realized by low-achieving and mainstreamed students. The same is echoed by Steinbrink and Jones (1993) who have studied the effects of cooperative test-review teams. The results from their study show that lower- and average-ability students improve their test scores significantly with this method, while higher-achieving students maintain their scores but also develop their social skills. Leikin and Zaslavsky (1999) advocate the use of Cooperative Learning in the teaching of mathematics. In a study of four middle-level grade nine classes, they found that there was an increase in mathematical communication between students. As a result, students "improve their problem-solving abilities, solve more abstract mathematical problems, and develop their mathematical understanding" (p. 245). Cohen (1999) used Cooperative Learning to teach a "tough" college macroeconomics course. Her experience was positive as she was able to cover more material and witnessed an increase in students' understanding and enjoyment of the course. In their evaluation of the course at the end of the semester, 90% of the students reported a positive attitude about economics compared to the usual 60% of previous courses. Olds (1989) describes her experiences with Cooperative Learning in a grade 8 social studies class as "extremely positive"

(p. 33). She lists higher student achievement, punctual assignment completion and increased participation as some of the benefits she has witnessed in her classroom. Conrad (1988) used Cooperative Learning to investigate the theme of peacemaking with her grade five students. She describes her students as assuming a peaceful and cooperative manner when studying prejudice. "Practicing cooperation is conducive to cooperation (p. 286). Alberti (cited in Slavin, 1995), a language arts teacher, explains that of all the successes that Cooperative Learning has brought, it is the significant increase in test scores that has excited her the most. And, Smith (1987) expresses his views on Cooperative Learning through the statements he acquired from his grade nine students. They found that Cooperative Learning allowed them to share ideas, taught them responsibility and improved their grades. It also led to increased class involvement by the students which in turn gave them the opportunity to get to know their classmates. Smith concludes: "Cooperative Learning was the turning point in my professional life" (p. 666).

Cooperative Learning's Prevalence in the Classroom. Although the research analyzing the effects of Cooperative Learning on students' achievement and other noncognitive outcomes is "remarkable in its breadth and in its quality" (Slavin, 1995, p. 46), there is a lack of research on Cooperative Learning's prevalence in the classroom (Antil, Jenkins, Wayne & Vadasy, 1998). Only a few educated guesses as to how many teachers were actually using Cooperative Learning in their classrooms were found. In one case, in an interview with Willis (cited in Antil et al., 1998), it was estimated by Slavin that only 10% of teachers nationwide were using Cooperative Learning in their classrooms. Antil, Jenkins, Wayne and Vadasy conducted their own study and found that 93% of the teachers that they interviewed reported using Cooperative Learning regularly in their classrooms. However, when the researchers compared what the teachers were doing to what the researcher-developers consider to be Cooperative Learning, the numbers diminished

considerably. In fact, 5% of the teachers interviewed adhered to the Johnson's model of Cooperative Learning while 24% were true to Slavin's. Two questions arise out of this research: Firstly, why is there such a discrepancy between what teachers are doing and what the researcher-developers advocate? And secondly, do all the reported gains of Cooperative Learning still hold true for those who are choosing to use a "watered-down" version?

Implementing Change

The past 20 years have witnessed an explosion of knowledge in education, generating a host of programs and strategies aimed at improving classroom instruction (Strong, Silver, Hanson, Marzano, Wolfe, Dewing, & Brock, 1990). In New York City's Board of Education alone, for example, 781 innovative programs were piloted between 1979 and 1981 (Fullan & Stiegelbauer, 1991). When "technological developments, shifting demographics, family and community complexities and economic and political pressures" (Fullan, 1996, p. 420) are added, it is not surprising that today's educators often feel overloaded and unable to keep up.

The preferred method to deliver new programs and ultimately improve classroom instruction is the inservice workshop (Hendrickson, O'Shea, Gable, Heitman, & Sealander, 1993). However, research is showing that the traditional, short-termed, "quick-fix" inservice training sessions are most often ineffective and hence, a waste of the taxpayer's money (Englert, Tarrant & Rozendal,1993; Wood & Thompson, 1993). Too often, administrators and staff developers falsely presume that once an innovation has been introduced and the initial training completed, teachers will return to their classrooms and fully implement it (Bailey & Palsha, 1992; Sacca, 1991). But this rarely happens. Instead, innovations are being rejected after a short period of use, or are being so modified that they hardly resemble their original form (Mitchell, 1988; Stiegelbauer, Muscella & Rutherford, 1986). The problem, in most cases, is not the innovation, but the serious mistakes that

are being made at the implementation stage (Fullan & Stiegelbauer, 1991; Hord, Hall, Rutherford & Huling-Austin, 1987; Sarason, 1991).

Fullan and Stiegelbauer (1991) have identified nine key factors that affect the implementation of change. These factors are organized into three main categories: characteristics of the innovation, local roles and external roles. "The more factors supporting implementation, the more change in practice will be accomplished" (p. 67). To begin with, in the first category, the key factors of need, clarity, complexity and quality and practicality of the program are identified. Implementation will be more successful when the innovation is perceived by the users as filling a need. In evaluating staff development programs, Casper and Roecks (1982) found that 43% of the teachers polled expressed that they did not feel the need for the inservice programs that they were subjected to. The clarity and the extent of change required by the participants will affect the staying power of the innovation. The quality of the program, as well as its practicality will also affect its implementation. Innovations are often "adopted" without much thought to time and materials required. The school district, school board and community, the principal and teacher are all examples of local factors affecting the implementation of change. However, "the main agents (or blockers) of change are the principals and teachers" (Fullan & Stiegelbauer, 1991, p. 76). Berman and McLaughlin found that "projects having the active support of the principal were most likely to fare well" (cited in Fullan & Stiegelbauer, 1991, p. 76). How receptive teachers are to change individually, as well as how supportive their colleagues are can affect the success of an innovation. Lastly, external factors, such as Ministry of Education policies, can influence the implementation of change. The constant pressure to improve the education system results in new legislation and policies being handed down. Implementation of these programs can be positively influenced by the allocation of resources, the support of staff development and the monitoring of the implementation

of the policies.

CBAM and the Nature of Change

Staff development and the improvement of educational practices imply change. "[C]hange may be exemplified by the refinement, by the modification or by the replacement of existing knowledge, attitudes or skills" (Hord, 1981, p. 1). The Concerns-Based Adoption Model (CBAM) is a model of change that was developed in the late 70's (Hord, 1981; Loucks, 1983). CBAM offers a unique approach to describe how individuals undergo the change process by focusing on the needs of the individuals and describing their growth over time. It is based on the following assumptions about change.

Change is a process, not an event. Research supports the notion that the traditional, short-lived, one-shot-in-the-arm workshops are not effective agents of change (Englert, Tarrant & Rozendal, 1993; Wood & Thompson, 1993). This method of staff development treats change as if it were an event, much like the hand-off of a baton in a relay race. Fullan (cited in Eastwood & Louis, 1992) states that most educators underestimate the amount of time needed for successful implementation to happen. Hord, Hall, Rutherford and Huling-Austin (1987) describe "change as a process occurring over time, usually a period of several years" (p. 6). Similarly, Roberts and Roberts (1986) have found that three to five years are normally required for an innovation to be implemented.

Change is accomplished by the individual. Because change affects people, their role in the change process is extremely vital (Hord et al., 1987). Outside forces such as legislature and school boards do not necessarily cause a teacher to change (Berlin & Jensen, 1989). In order for a teacher to buy into the process, the needs of the individual must be the primary focus at all stages of implementation (Eastwood & Louis, 1992; Stiegelbauer et al., 1986). This means that to ensure

effective change, one must involve the staff in all phases of the change. In this manner, they will feel that they had a stake in it (Berlin & Jensen, 1989; Sacca, 1991).

Change is a highly personal experience. Change happens to people, not to things. Too often, facilitators get caught up in the material aspects of an innovation, paying little attention to people's feelings, attitudes and motivation (Roberts & Roberts, 1986). Hope (1997) explains that change can be traumatic for teachers. He describes them experiencing "disequilibrium" (p. 147) as they make the transition from former to new. Ultimately, the success of the implementation of an innovation relies on those who are targeted to use it. Therefore it is extremely important that the teachers' perceived and real difficulties about an innovation be taken into consideration.

Change involves developmental growth. "CBAM research has shown that individuals involved in the change process move through identifiable stages in their feelings about a new program and also in identifiable skill levels as they use a new program" (Roberts & Roberts, 1986, p. 107). Therefore, it is important to provide ongoing assistance to teachers during the course of the change (Daniel & Stallion, 1995; Munger, 1991, 1995). Furthermore, because these teachers are individuals, they will learn at different rates. Assistance should be tailored to each teacher's changing needs (Loucks-Horsley, Harding, Arbuckle, Murray, Dubea & Williams, 1987).

Change is best described in operational terms. Change is complex. It is multidimensional, involving changes in skills, practice and theory or conceptions (Joyce & Showers, 1988). While professional development needs to be all encompassing, a "highest priority should go to improving competencies to do one's job" (Thompson, Wood & Russell, 1981). Many teachers require change delivered in concrete, practical terms. Shroyer (1990) discusses Doyle and Ponder's "practicality ethic" (p. 4), whereby teachers will put in the work and effort if they perceive the change to be clear, user-friendly and relevant to what they are doing.

The focus of facilitation should be on individuals, innovations and the context. The real meaning of change lies in its human component (Hord et al., 1987). In order for change to occur, behaviors must be altered. Teachers need help to do this. According to Stiegelbauer et al. (1986), the diagnostic/prescriptive method remedies this. When the client, the teacher, has a problem, it is discussed with a facilitator or a colleague for solutions. This requires a personal commitment from each individual as well a commitment from the entire group (Thompson, Wood & Russell, 1981). Sparks and Loucks-Horsley (1989) have found that it is this companionship, this peer coaching among individuals, that will sustain change over time.

CBAM Dimensions

There are three dimensions to the CBAM model which are used for the planning, facilitation, monitoring, and evaluating of change in schools.

Stages of Concern (SoC) is the first CBAM dimension. "Concerns are the feelings, attitudes, thoughts, or reactions an individual has related to an innovation, or some new idea, practice, program, or process" (Hord, 1981, p. 3). Seven different concerns that people experience when faced with a new situation have been identified. These seven concerns range from task concerns to self concerns to impact concerns (see Figure 1). Hord et al. (1987) report that it is useful to know what concerns an individual is having as support and assistance can be tailored to aid the movement through them.

Levels of Use (LoU) is the second CBAM dimension. One cannot presume that once an innovation has been introduced that it will be practised in every classroom (Hord et al., 1987). LoU was developed to define operationally how an innovation is being used. Eight distinct levels of use that a person may experience have been identified. They range from spending most efforts on orienteering, to managing, and finally to fully integrating the use of the innovation (Hord et al.,

1987) (see Figure 2). Levels of Use is a useful tool to "assess individuals...to facilitate their growth in the use of an innovation while minimizing the trauma of change" (Hall, Loucks, Rutherford, & Newlove, 1975, p. 56).

Innovation Configurations (IC) is the third CBAM dimension. It was developed to identify exactly what specific teachers are doing with an innovation with the purpose of finding out how to best assist them (Hord et al., 1987). The IC component checklist developed by Heck, Stiegelbauer, Hall and Loucks (1981) is used to identify the important components of an innovation and their acceptable and unacceptable variations. Once the checklist is developed, it can then be used to introduce, monitor or assess a teacher's use of an innovation (See Appendix D).

There are many practical applications for CBAM, depending on what the intended purpose is. Hord et al. (1987) note that while some schools use the whole CBAM model, others select the components that they deem most useful to their particular situation. For example, Sacca (1991) used the SoC Questionnaire to initially survey the personnel preparation requirements associated with the use of Cooperative Learning methods. In this manner, she was better able to meet the teachers' individual needs. Darr (1985) similarly had participants complete the SoC Questionnaire during the first year of a three-year longitudinal study of a new Practical Action Plan in order to better address specific concerns. In a study of principals and teachers involved in implementation of benchmark testing, Kimpston and Anderson (1986) used the SoC dimension at the beginning, during and at the end of a four-year study. These researchers were able to track the participants in their journey through the various stages of change. Similarly, Hope (1997) reports the use of the SoC Questionnaire as a pretest and a post-test to gather data on teachers' concerns about microcomputer technology. The results were used to facilitate acceptance and implementation of the new program because the training that was ultimately delivered was specific to the teachers'

needs. Hiatt and Sandeen (1990), on the other hand, used the SoC Questionnaire after the implementation of Cooperative Learning and in conjunction with interviews to determine teachers' reasons for doing so. On a larger scale, Casper and Roecks (1982) surveyed 52 workshops using only the Levels of Use component. They found that 50% of the staff development programs surveyed were a waste of money, in their opinion, as only 50% of the teachers deemed the workshops they had attended as "needed" and "desired". In planning the implementation of the Jeffco science program, Pratt, Melle, Metzdorf and Loucks (as cited in Hall, George, Griffon, Hord, Loucks, Melle, Metzdorf, Pratt & Winters, 1980) made use of the SoC component to respond to particular concerns and the LoU component as a goal setter to describe in operational terms what the program would look like. Hord and Huling-Austin (1987) report a principal who used the IC component of CBAM as a monitoring technique to investigate how she could offer support to teachers a year into the implementation of a new math program. The principal was able to provide timely and appropriate assistance to teachers as they required it.

Some studies have used the three components of CBAM. Melle and Pratt (1981) employed Innovation Configurations, Stages of Concern and Levels of Use to evaluate the extent of a science program. Mitchell (1988) did the same in order to assess the implementation of three educational innovations: Project Read, Timeline and a K-8 Social Science inservice program.

STAGES OF CONCERN ABOUT THE INNOVATION[1]

Refocusing: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. Individual has definite ideas about alternatives to the proposed or existing form of the innovation.

Collaboration: The focus is on coordination and cooperation with others regarding use of the innovation.

Consequence: Attention focuses on impact of the innovation on student in his/her immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of outcomes, including performance and competencies, and changes needed to increase student outcomes.

Management: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

Personal: Individual is uncertain about the demands of the innovation, his/her inadequacy to meet those demands, and his/her role with the innovation. This includes analysis of his/her role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

Informational: A general awareness of the innovation and interest in learning more detail about it is indicated. The persons seems to be unworried about himself/herself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

Awareness: Little concern about or involvement with the innovation is indicated.

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[1]Original concept from Hall, G.E., Wallace, R.C. Jr., & Dossett, W.A. (1973). *A Developmental Conceptualization of the Adoption Process within Educational Institutions.* Austin, TX: Research and Development Center for Teacher Education, The University of Texas.

NOTE: From *A Stages of Concern Approach to Teacher Preparation* by G.E. Hall (1985). Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.

FIGURE 1.   Stages of Concern

LEVELS OF USE OF THE INNOVATION[2]

Renewal: State in which the user reevaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examine new developments in the field, and explores new goals for self and the system.

Integration: State in which the user is combining own efforts to sue the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

IVB   **Refinement:** State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.

IVA   **Routine:** Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

Mechanical Use: State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than clients needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.

Preparation: State in which the user is preparing for first use of the innovation.

Orientation: State in which the user has recently acquired or is acquiring information about the innovation and/or has recently explored or is exploring its value orientation and its demands upon user and user system.

Nonuse: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.

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[2]Excepted from: The LoU Chart: Operational Definitions of Levels of Use of the Innovation. Austin: Research and Development Center for Teacher Education, The University of Texas, 1975.

NOTE: From *Change in Schools: Facilitating the Process* by G.E. Hall & S. Hord (1987). Albany: State University of New York Press.

FIGURE 2.   Levels of Use

Summary

CBAM is a well documented method of examining change undergone by the individual. Fullan and Stiegelbauer (1991) state that successful change happens when the people doing the changing perceive the change as filling a need., It is these "changes" that potentially could be the main blockers of the change. The academic and social benefits of Cooperative Learning are well documented. There is limited information, however, on Cooperative Learning's prevalence in the classroom. Estimates on teachers' use of Cooperative Learning are limited and not very encouraging. If Cooperative Learning is as good as it is reported to be, why are teachers not fully implementing it into their classrooms and if not, why not?

CHAPTER 3

Methodology

Theoretical Frameworks

This study is based on the theoretical frameworks of Cooperative Learning and the Concerns-Based Adoption Model of change. Cooperative Learning has a solid research base as an effective instructional strategy (Slavin, 1995). The academic and social effects of Cooperative Learning are well documented in the literature (Johnson, Johnson & Holubec, 1994; Slavin, 1995). The board's workshops were based on Johnson, Johnson and Holubec's (1994) model of *Learning Together*. The five basic elements of positive interdependence, face-to-face interaction, individual accountability, social skills and group processing must be structured into every *Learning Together* Cooperative Learning lesson. As a result, every *Learning Together* Cooperative Learning lesson has a social skill objective as well as an academic one.

The framework of the Concerns-Based Adoption Model (CBAM) of change was used to investigate the implementation of Cooperative Learning in the board. Developed in the 70's, CBAM offers a unique approach to describe how individuals undergo the change process by focusing on the needs of the individual and describing their growth over time (Hord, 1981; Loucks, 1983). This study made use of two of CBAM's components: Innovation Configurations (IC) and Levels of Use (LoU). Innovations Configurations was used to help identify the important components of Cooperative Learning and their acceptable and unacceptable variations. This information was organized into a questionnaire format and was used to assess the teachers' use of Cooperative Learning. Levels of Use, a well-researched generic scale, was used in the first part of the interview to help describe the teachers' interaction with Cooperative Learning.

Design of the Study

This study is quantitative and qualitative in nature. The data for this study were gathered through a questionnaire and with the process of an interview. The questionnaire provided quantitative and qualitative data. It rendered descriptive information about the sample and described, in part, how teachers in the board were using Cooperative Learning. The interview yielded quantitative data detailing how teachers used Cooperative Learning, what difficulties were encountered and how they would resolve them.

Role of the Researcher

The role of the researcher in this study was that of an active participant in the board's workshops. The reason for undertaking research in this area was personal. This researcher was one of the six facilitators for her board and had trained all of the participants. The researcher has outlined in the next section how she tried to be as objective as possible in reporting the data.

Validity and Reliability

Validity and reliability were addressed through the frameworks of quantitative and qualitative research methods. In quantitative research, validity and reliability "depend heavily on the quality of the measurement" (Schumacher & McMillan, 1993, p. 223). They state that using already established instruments provides more credible measurements. This study used a well-researched generic scale, the Levels of Use from the Concerns-Based Adoption Model, to describe teachers' interactions with Cooperative Learning in a school board. The same authors assert that if a locally prepared instrument of measurement is to be used, it would be best to pilot test the instrument before the actual study. This study also made use of Innovations Configurations from the Concerns-Based Adoption Model. Because IC is innovation specific, there is no generic Cooperative Learning component checklist. Therefore, this researcher conducted a pilot study of

the questionnaire prior to carrying out the research study.

In qualitative methods, validity "hinges to a great extent on the skill, competence and rigour of the person doing the fieldwork" (Patton, 1990, p. 14). Internal validity is "the degree to which the interpretations and concepts have mutual meaning between participants and researcher" (Schumacher & McMillan, 1993, p. 391). To maximize internal validity of this study, this researcher wrote out all her potential biases about Cooperative Learning before the beginning of the study and referred to it often throughout the study. This process developed by Erikson, is called *disciplined subjectivity* (as cited in Schumacher & McMillan, 1993). External validity in qualitative research aims at "the extension of the understandings" (Schumacher & McMillan, 1993, p. 394). To maximize comparability and translatability of this study, this researcher reported the "extent of typicality of the phenomenon" (p. 395).

In quantitative methods, researchers "view reliability as a fit between what they record as data and what actually occurs in the setting under study" (Bogdan & Biklen, 1992, p. 48). In order to increase the agreement on the phenomena between the researcher and participants, this researcher heeded Schumacher & McMillan's (1993) suggestions listed below:

Obtain literal statements of participants.

Use tape recorders

Check informally with participants for accuracy during data collection.

Actively search for, record, analyse, and report negative cases or discrepant data.

(p. 387)

Sample

The initial sample consisted of all participants who had attended one of the Board's Cooperative Learning Institutes. The only exceptions were principals, superintendents and those

who had been out of the classroom for one or both of the previous two years at the time of the study. These people were excluded because they had been out of a regular classroom and their use of Cooperative Learning would have been either different (i.e. at staff meetings) or not continuous.

This initial sample was asked to respond to a questionnaire which was mailed out. A covering letter accompanied this questionnaire, informing the participants of its purpose, the use of the results and of voluntary participation and of confidentiality (See Appendix E).

After the questionnaire was completed, interviews were held. The interview participants were chosen from the first sample by simple random sampling (Schumacher & McMillan, 1993). Before participating in the interview, participants were required to sign an interview consent form (See Appendix F). This form explained how the data were to be collected and used, and indicated that there was no risk of physical or psychological harm, and that participants would remain anonymous.

Data Collection

The Questionnaire

The data collected through the questionnaire were quantitative in nature as the questions are "part of a preestablished design before data collection" (Schumacher & McMillan, 1993, p. 15). The first six questions were used to provide "descriptive information about the population served by a particular educational program" (Bogdan & Biklen, 1992, p. 148). In this case, gender, age, total years teaching, levels taught during the past two years and highest academic degree earned were explored in relation to the implementation of Cooperative Learning in the board.

The design of the last three pages of the questionnaire was founded on the major concept of Innovation Configurations from the Concerns-Based Adoption Model. These nine questions helped answer, in part, the first major research question: *How are teachers in our Board using*

Cooperative Learning in their classrooms? The first step in creating the questionnaire was to use the

Innovation Configurations component checklist developed by Heck, Stiegelbauer, Hall, and Loucks

(1981) to identify the components of Cooperative Learning and their acceptable and unacceptable

variations. "In the development of the Innovation Configurations components, component

variations and composite checklist it is important to take into account the perspective that is going

to be used to make these specifications" (Hall & Loucks, 1981, p. 16). This was accomplished in

part with the use of the current literature on Cooperative Learning (Kagan, 1994; Slavin, 1995;

Johnson, Johnson & Holubec, 1994; Abrami et al., 1995) and in part with this researcher's and

another facilitator's experiences with Cooperative Learning as facilitators and as classroom

practitioners. By doing so, this researcher was trying to ensure "an optimal consensus of terms by

change facilitators, developers, users, and evaluators" (Hall & Loucks, 1981, p. 16). Since the

board's workshops were based on Johnson, Johnson & Holubec's (1994) model of Cooperative

Learning, the five basic elements of positive interdependence, face-to-face interaction, individual

accountability, social skills and group processing were identified as components which needed to

be examined. The facilitators of the board's workshops also spent a great deal of time on a sixth

element, teambuilding, and wished to investigate its use as well. Ideal, acceptable and

unacceptable variations were identified for each of these six components. The acceptable variation

of the five basic components translates to the minimum that one must do for a lesson to be deemed

a Cooperative Learning lesson by the researcher-developers. The ideal version of these components

was used to assist the facilitators of this workshop to examine how well each individual component

was being implemented. For example, Johnson, Johnson and Holubec (1994) state that positive

interdependence must be structured into every lesson. This is the criterion necessary for a

participant to be deemed at least at the acceptable level. In the workshop, 10 ways of structuring

positive interdependence were taught. A participant must have used at least 6 different methods of structuring positive interdependence into every lesson throughout the year to reach the ideal level. The number 6 was chosen as the minimum for the ideal level in discussion with two of the facilitators of the workshop, in light of what had been taught at the workshop (See Appendix D).

The Cooperative Learning checklist was organized in a table "in a left-to-right fashion using vertical and solid lines to indicate ideal, acceptable and inacceptable practices" (Hord et al., 1987, p. 7). The researcher then chose to organize the data from the table into a questionnaire format of nine questions.

Pilot of the Questionnaire

A pilot study of the questionnaire was done in order to seek information on the development of the instrument and to practice its administration.

The sample consisted of principals and vice-principals who had attended one of the board's Cooperative Learning Institutes but who had been out of the classroom for one or both of the previous two years. Eleven participants met these requirements. However, as it was summer, only eight of them were available to participate in the pilot. One participant withdrew from the study after receiving the questionnaire, leaving a total of seven people in the pilot of the questionnaire.

For expediency's sake, the pilot questionnaires were hand-delivered to the participants and then picked up when completed. This entire process took two weeks to complete.

Results of the Pilot

Comments and suggestions received from each of the seven participants were varied but very helpful. Three of the participants offered comments only, while the others proposed changes. Two suggestions were received with regards to the first part of the questionnaire and four for the second part. Although not all suggested changes were made, each was given serious consideration.

To begin with, three of the participants had no suggestions of change to make as they commented that the questionnaire was "easy to complete", "not too lengthy", "perfectly clear", and "easy to follow".

Part I of the questionnaire, used to explore descriptive information about the sample, elicited two suggestions from the participants. A first suggestion was to eliminate the box labelled "other" when asking about level(s) taught in question 3 and to replace it with specific job descriptions such as principal, librarian etc. The researcher chose not to alter the question for fear of omitting a category. In this manner, all "others" would be tabulated.

The second suggestion was to be more specific with regards to question 5, the highest academic degree earned. The suggestion was to add "of education" to both the bachelor's and master's categories. The researcher chose, once again, to leave the question as is as she deemed that information unnecessary to the study.

Four major suggestions were made by the participants in the second part of the questionnaire. Two participants thought that the scale (every lesson, once a week, once a month, never) used in question one to measure teambuilding was "too big of a jump." It was suggested that the scale of "often, sometimes and never" be used instead. The researcher chose not to alter the scale for two reasons. First of all, the suggested scale is not measurable and open for interpretation. What might be considered "often" to one person, could be considered "sometimes" to another. Secondly, the scale's time frames were not arbitrarily chosen. They translate into ideal, acceptable and unacceptable variations of the component as defined in the Cooperative Learning Component Checklist (See Appendix D).

A similar suggestion was made for question 4a), dealing with positive interdependence. A participant suggested that the word "every" be replaced with "often". Once again, the researcher

chose to leave the question in its original form because according to the Johnson and Johnson model of Cooperative Learning, every Cooperative Learning lesson must have positive interdependence structured into it.

One of the participants requested that the wording be changed in question 2, dealing with grouping. It was suggested that the sentence read "Heterogeneous groups are used exclusively" instead of "Only heterogeneous groups are used". The researcher made this change because she thought it seemed more definitive.

The most notable clarification came from two participants who found question 4b), dealing with positive interdependence, "overwhelming". In this question, participants must check off the methods that they use to structure positive interdependence into their Cooperative Learning lessons. It was suggested that a short definition follow each method to help the participants identify them. This change was accommodated by the researcher.

The Interview

The interview section of the study was based on two major concepts. The initial line of questioning took its roots from the concept of Levels of Use from the Concerns-Based Adoption Model. These questions helped assess how Cooperative Learning was being used in the classroom. The Level of Use informal interview (Hord et al., 1987) was followed as it provided a guide for talking to teachers about their use of Cooperative Learning. The questions were set up in a specific order (See Appendix G). By following the line of questioning, the researcher could sort out at which level of use the teachers were. This data were combined with the data received from the questionnaire to help answer the first major research question: *How are teachers in our Board using Cooperative Learning in their classrooms?*

The next four questions of the interview were intended to explore the following two major

research questions: *What difficulties are the teachers experiencing?* and *How will/have they resolve(d)*

these difficulties? The interview was based on a standardized open-ended interview (Patton, 1990).

This particular format was chosen in this case to "minimize interviewer effects by asking the same

question of each respondent" (p. 285). This researcher has trained all of the respondents, most of

whom are her colleagues, in Cooperative Learning. In this manner, the researcher was bound to

the questions on paper and was not be able to change the questions even when she was familiar

with the respondent.

Data Analysis

Data analysis involves working with data, organizing it into "manageable units...searching

for patterns, discovering what is important and what is to be learned, and deciding what you will

tell others" (Bogdan & Biklen, 1992, p. 153). In this study, data analysis was done through the

frameworks of CBAM, and had both a qualitative and a quantitative element.

The Questionnaire

The quantitative data from the first six questions of the questionnaire were presented, from

a quantitative framework, in the form of descriptive statistics, using the windows version of SPSS.

Shumacher and McMillan (1993) report that this method is the most fundamental way to

summarize quantitative data. "Descriptive statistics transform a set of numbers into indices that

describe or characterize the data" (p. 192). The data collected from the Cooperative Learning

second part of the questionnaire were analyzed using the windows version of SPSS. The data were

analyzed by individual components, as well as an overall package. The data were presented by

component frequency which was also presented as a percentage. This design provided a view of

the implementation of each Cooperative Learning component as well as a global overview of the

overall implementation of Cooperative Learning within the school board.

The Interview

The data collected from the Level of Use informal interview were organized into a Level of Use frequency table that was also translated into a percentage, as used by Casper and Roecks (1982). The data collected from the standardized open-ended interview were analyzed with a qualitative instrument, content analysis. "Content analysis is the process of identifying, coding, and categorizing primary patterns in the data" (Patton, 1990, p. 381). As data were collected, the researcher searched for reoccurring themes, classifying them as they emerged and looked for potential relationships among these categories.

In conclusion, Innovation Configurations and Levels of Use from the Concerns-Based Adoption Model were used to collect data on the prevalence of Cooperative Learning in the classroom. Innovation Configurations was used to develop the questionnaire and Levels of Use was used for part of the interview. Because the Innovation Configuration checklist was specific to this study, it was piloted in order to seek information on it and to practice it's administration. Careful attention was given to validity and reliability when the study was designed because the researcher was an active participant in the study, having trained all of the participants in Cooperative Learning.

CHAPTER 4

Presentation of the Findings

Introduction

Chapter Four is divided into four sections. A description of the sample is presented in the first section. The second section illustrates how teachers use Cooperative Learning in their classrooms. In the third section, the teachers' Level of Use with Cooperative Learning is identified. The fourth section presents the difficulties teachers are experiencing with Cooperative Learning, their strategies for resolving these difficulties, and their suggestions to improve the implementation of Cooperative Learning.

Description of the Sample

The initial sample consisted of participants who had attended one of the board's Cooperative Learning Institutes. The only exceptions were principals, superintendents and those who had been out of the classroom for one or both of the previous two years because their use of Cooperative Learning would have been different and/or not continuous. A total of 151 teachers out of a possible 182 were eligible to take part in the study because they had been in the classroom for the previous two years.

Questionnaires were sent to all 151 eligible prospects. Half of the questionnaires were sent out by mail while the others were hand delivered because of budgetary constraints. The surveys were sent out during the last week of July 1998. By the second week of September, a total of 61 surveys (40.4%) had been returned. A reminder was faxed to all schools on September 21, informing all teachers that the final deadline for returns would be October 29. This process yielded a further three surveys, bringing the total number of returns to 64 (42.4%) out of a possible 151.

Descriptive information is yielded about the sample in the first part of the questionnaire. Of the 64 responding teachers, 18.8% were male and 81.3% were female. Eight of the teachers (12.5%) reported holding Master's degrees, the remaining 87.5% held bachelor's degrees. Three-fifths (58%) of the respondents had taught at the elementary level during the previous two years (JK-6), 27% had taught at the senior elementary level (7-8) and 13% had taught at the high-school level (9-OAC).

The respondents were asked to identify which Cooperative Learning Institute they had attended. The response rate was the lowest from the first Institute offered by the board in the Spring of 1994 where two out of a possible 22 teachers returned their questionnaires. The response rate then increased from 29.0% to 54.8% and to 63.2% during the next three Institutes of Fall 1994, Spring 1995 and Winter 1996 respectively. There was a decline in the number of responses from the last Institute of Winter 1997 where 41.4% of eligible teachers returned their questionnaires (See Table 1).

During the Spring and Fall of 1998, boards and teachers across Ontario were facing numerous legislative changes steered by the Ontario government. As a result of this, in the Fall of 1998, teachers in this board were on "work to rule" and were not to participate in any extra-curricular activities. This may have discouraged some teachers from completing the questionnaires.

Teachers' Use of Cooperative Learning in Their Classrooms

The second part of the questionnaire was developed using the concept of Innovations Configurations from the Concerns-Based Adoption Model (Hord et al., 1987). It was designed to answer, in part, the first major research question: *How are teachers using Cooperative Learning in their classrooms?* Teachers were asked nine questions that would evaluate their use of each

component as well as their overall use of Cooperative Learning. Descriptive statistics were calculated using the windows version of SPSS.

To begin with, when examining the six components (positive interdependence, face-to-face interaction, individual accountability, social skills, group processing and teambuilding) individually, all of them were being implemented into every lesson (acceptable level) by at least half of the respondents. The component which was being used by the least number of respondents, at an acceptable level, was teambuilding at 57.1%. The component of processing was utilized.

Table 1

RESPONSES FROM VARIOUS INSTITUTES

Institute	Total # of Participants	Eligible # of Participants	Responses Received	%
Spring 1994	32	22	2	9.1
Fall 1994	41	31	9	29.0
Spring 1995	36	31	17	54.8
Winter 1996	39	38	24	63.2
Winter 1997	34	29	12	41.4
Overall	182	151	64	42.4

by 68.7% of the teachers at an acceptable level. Positive Interdependence followed very closely at 70.3%. Individual Accountability was structured into lessons at an acceptable level by 82.8% of the respondents. Grouping and Social Skills were the most popular components, being structured into lessons at an acceptable level, by 95.3% and 96.8% of the teachers respectively (See Table 2).

Table 2

REPORTED USES OF COOPERATIVE LEARNING COMPONENTS BY TEACHERS

Components	Unacceptable	Acceptable (and Ideal)	Ideal	Missing
Teambuilding	27 (42.2)*	36 (57.1)	9 (14.3)	1 (1.6)
Grouping	2 (3.1)	61 (95.3)	13 (20.3)	1 (1.6)
Social Skills	2 (3.1)	61 (96.8)	39 (61.9)	1 (1.6)
Positive Interdependence	19 (29.7)	45 (70.3)	38 (59.5)	0 (0)
Individual Accountability	11 (17.2)	53 (82.8)	22 (34.4)	0 (0)
Processing	20 (31.3)	44 (68.7)	26 (40.6)	0 (0)

*Numbers in parentheses indicate percentages of respondents.

However, the results differ greatly when the teachers' use of all six components were examined together. Twenty-five teachers (39.1%) structured all six Cooperative Learning components into every Cooperative Learning lesson at an acceptable level. This number increased to 33 teachers (51.6%) when only the 5 basic elements were taken into account. The results of the teachers' use of Cooperative Learning at the ideal level are lower. Only two teachers (3.1%) were using the six component version and 4 teachers (6.3%) were using the 5 component version, as had been taught in the workshop (See Table 3).

Table 3

REPORTED OVERALL USE OF COOPERATIVE LEARNING BY TEACHERS

Type	Acceptable	Ideal
5 basic elements	33 (51.6)	4 (6.3)
5 basic elements & teambuilding	25 (39.1)	2 (3.1)

*Numbers in parentheses indicate percentages of respondents.

Ten methods of structuring positive interdependence were introduced during the board's workshops. The 45 teachers who structured positive interdependence into every Cooperative

Learning lesson preferred to do so using the following four methods: goal, resource, role, environmental positive interdependence. The method of simulation was least preferred with only nine teachers using it (See Table 4). Ten methods of structuring individual accountability were taught in the board's workshops. Of the 52 teachers who structured this component into every Cooperative Learning Lesson, most of them preferred to do so by individual testing and evaluation, peer and self assessment and role assignment and observation and feedback about individual participation (See Table 5). Group processing was introduced using six different methods. Of the 44 teachers who used group processing in every lesson, most of them used the following methods: teacher observation and feedback (40), whole class discussion (36), group discussion (34), self evaluation (34) and peer evaluation (33). The method used by the least number of teachers was group check sheet (See Table 6).

Table 4

REPORTED WAYS OF STRUCTURING POSITIVE INTERDEPENDENCE BY TEACHERS

Method	# of Teachers
Goal	45
Incentive	30
Outside Force	18
Resource	40
Simulation	9
Sequence	28
Role	42
Environmental	42
Identity	25
Communication	35

Table 5

REPORTED WAYS OF STRUCTURING PROCESSING BY TEACHERS

Method	# of Teachers
Individual testing & evaluation	42
Grades based on average team member's score	18
Role assignment	37
Observation & feedback about individual participation	35
Group identification	21
Group rewards	26
Peer & self assessment	39
Member signature	22
Teambuilding	26
Random selection of answers	27

Table 6

REPORTED WAYS OF STRUCTURING POSITIVE INTERDEPENDENCE BY TEACHERS

Method	# of Teachers
Teacher observation & feedback	40
Group discussion	34
Whole class discussion	36
Self evaluation	34
Group check sheet	23
Peer evaluation	33

Teachers' Levels of Use of Cooperative Learning

The first section of the interview was based on the concept of Levels of Use from the Concerns-Based Adoption Model (Hall & Hord, 1987). Eight different Levels of Use (LoU) of an innovation are identified in this model, each being limited by a decision point which indicates the movement to the next level. The levels describe behaviors from spending most efforts in orientation, to managing, to full integrated use of Cooperative Learning. A defined set of questions was asked of the interviewees in an attempt to determine their level of use of Cooperative Learning. From the ten interviews, 1 teacher was assessed to be at LoU 0 (nonuse), 2 teachers were deemed to be at LoU I (orientation), 1 teacher was determined to be at LoU II (preparation), 5 were found

to be at LoU III (managing) and one was considered to be at LoU IVA (routine) (see Table 7).

Table 7

NUMBERS OF TEACHERS OPERATING AT VARIOUS LEVELS OF USE

	Levels of Use							
	0	**I**	**II**	**III**	**IVA**	**IVB**	**V**	**VI**
Frequency	1	2	1	5	1	0	0	0
Percentage	10%	20%	10%	50%	1%	0	0	0

To begin with, one teacher stated, that even though he had used Cooperative Learning strategies in the past, he did not presently use Cooperative Learning in any of his classes because he had recently acquired a part-time, out-of-class, position which limited his time with students. When asked if he would use Cooperative Learning in the future, he answered, "No", adding:

> As much as I appreciate Cooperative Learning, I find that at times it can be a little overwhelming to look at the material that's available and yet use it in a time efficient manner that still lets me carry on as a classroom teacher.

This teacher, although having knowledge about Cooperative Learning, was making no effort to learn more about it and did not plan to use it in the near future, placing him in the Level of Use 0, nonuse.

Two teachers explained that although they had successfully used Cooperative Learning strategies in the past, they no longer did so because of recent changes in their teaching assignments. One of the teachers, currently teaching full-time in a special needs class, was having a difficult time using Cooperative Learning because of the inability of her students to understand and follow directions. The other teacher had recently accepted a full-time librarianship and therefore was no longer in the classroom setting. Both teachers, however, were trying to locate information that would help them adapt Cooperative Learning to their new assignments. Although no time had been set for beginning the use of Cooperative Learning in their respective settings, these two teachers

were definitely taking the initiative to learn more about Cooperative Learning and may even use it in the future, placing them in the Level of Use I category of orienteering.

Another teacher stated that although he was not currently using Cooperative Learning strategies in his class, he would start using them "within the third term". This was due to a change in his teaching assignment. He was adamant about establishing class routines before undertaking any Cooperative Learning lessons. A start time, in this case, has been established, placing this teacher in the Level of Use II category of preparation.

Five of the ten teachers interviewed were found to be in the Level of Use III category of mechanical use. The teachers in this category used Cooperative Learning methods but struggled with some aspect of it. They were aware of how Cooperative Learning should ideally work but are not yet able to use it in that way. This fact which often led to some level of frustration. Hall and Hord (1987) write that "it is not atypical for teachers to remain at this level for quite some time as they struggle with the logistics of a new program" (p. 59). Two of the teachers in this category had recently transferred from the primary level to the intermediate level. They were experiencing some difficulty with adapting the Cooperative Learning lessons they had once used effectively to the new age level. "There seem to be more behavior circumstances that are making it harder for me to efficiently get the groups together", stated one teacher. She then added, "I'm finding that I'm a little bit more controlling and so it takes away ...from what I originally had wanted."

Another teacher in this category was struggling with how to build in all of the basic elements of Cooperative Learning, especially the social element, into every lesson. "I don't build in the social aspect as much as I should," she admitted, "but when things start to unravel, I often think that if I'd worked more on the social aspect of it, maybe this wouldn't have happened."

Four of the five teachers in this category mentioned the struggle they were experiencing with

the management of time and preparation of Cooperative Learning lessons. "With everything else I have to do right now, with implementing the new curriculum, ...I just don't have time to do that [plan for Cooperative Learning lessons]," explained one teacher. "There is a substantial block of time that's going into the preparation", stated another, "In fact, sometimes I feel like it's overburdening." And still another added:

> Once I'm more familiar with ... the new expectations, ...once I've got my lessons ready,... then I'll have things set so I can look more on the finesse of how I'm going to present it [Cooperative Learning], but until I feel comfortable with the program and I know it and I know that I'm covering what needs to be covered, Cooperative Learning for me is on the back burner.

Only one teacher made it past the 'trouble' categories to be deemed at the Level of Use IVA routine stage. She explained that her Cooperative Learning went smoothly. She attributed this to the fact that she taught Religious Education. "They work well together in groups because of the nature of the discipline so I have to do that [use Cooperative Learning] because of the subject I'm teaching."

Teachers' Difficulties With Cooperative Learning

The second section of the interview was intended to explore what difficulties teachers were experiencing in using Cooperative Learning and how they would resolve these difficulties. This section was divided into four open-ended questions.

QUESTION #1:   *What opportunities do you use to maintain your skills in*

Cooperative Learning?

There were two methods most commonly used by the teachers to maintain their skills in Cooperative Learning. The primary method, used by 60% of the interviewees, was to revisit the documents and the supplementary literature that were supplied at the Cooperative Learning workshops. The second most frequent method used by 30% of the teachers was the consultation

with other staff members. One teacher mentioned seeing others use Cooperative Learning activities. Thinking they were great ideas, she implemented them in her own class. Another teacher discussed being challenged by a student teacher who was keen on learning about Cooperative Learning. "It really worked well because ... she asked questions so she was pushing me all the time to ... just do it."

Only one teacher actually ventured one step further and did some professional reading on Cooperative Learning. This teacher was, however, required to do so to meet the requirements of a course in the Master of Education program.

QUESTION #2: ***What difficulties are you experiencing in using Cooperative Learning?***

The problems encountered by the teachers are divided into three main categories: The educational climate, the teaching assignments and the Cooperative Learning program itself. To begin with, 50% of the teachers interviewed stated that they were using Cooperative Learning less in light of the demands of the new Ontario curriculum. One teacher explained:

> I'm worried about my day-to-day stuff, and unfortunately, going back and re-learning or reminding myself of what I should be doing for Cooperative Learning isn't high on my list of priorities.

And another one stated:

> ...the pressure of the curriculum these days is ... overwhelming ... I just do it [teach] the traditional way to get it done and cover the curriculum.

Not only was the new curriculum causing teachers difficulty, but the new age of accountability is producing educated parents who have a vested interest in their children's education. As one teacher explains, "...they [parents] thought that there should be more individual work, they didn't like the seating arrangement, they thought it was a little bit pushing toward socializing..."

Several teachers were also experiencing difficulty with Cooperative Learning because of their teaching assignments. Four teachers were having trouble adapting Cooperative Learning lessons to their grade level. Two of these teachers had recently moved from the primary division to the intermediate division and had not yet successfully made the switch with their lessons in Cooperative Learning. A third teacher was experiencing difficulty in adapting Cooperative Learning lessons to her grade 1/2 class. She knew there were probably "creative ways of getting around that" but had not done so because of lack of interest and time. The fourth teacher was having difficulty finding resources that had adapted Cooperative Learning lessons to the secondary level.

The implementation of Cooperative Learning with its five basic elements also caused some teachers difficulty. Two teachers found the preparation that goes into the implementation of Cooperative Learning lessons overburdening: "The problem is I look at it in terms of seeing a substantial block of time that's going into the preparation."

Two teachers found the preparatory work one must do specifically at the beginning of the year to ready the class for Cooperative Learning activities quite demanding.

Grouping the students caused difficulty for two other teachers. "The most difficult thing is when... you ...have to work at making sure that they're going to be able to work cooperatively."

Holding students accountable within the group also surfaced as a problem. Two teachers expressed concern about having to make sure that everyone was pulling their weight within the groups.

QUESTION #3: *How will/have you resolved these difficulties?*

Three of the teachers had no immediate plans to remedy their difficulties. One teacher answered "I just may not", adding that Cooperative Learning was simply not a priority at the moment. Another teacher had given up on Cooperative Learning for the year but intended to

return to the documents in the next year.

The remainder of the solutions are divided into three categories: planning, preparation of students and the adaptation of Cooperative Learning lessons themselves. To begin with, two of the teachers interviewed expressed the view that it was up to them to try and find the time to be better planned, to revisit the documents and to discuss lessons with peers. They said that they would have to make a conscious effort to improve.

Two other teachers expressed the desire to better prepare their students for Cooperative Learning activities:

> It's the process before you actually do the Cooperative Learning that is so important
> ...because once they can work together as a group and they know each other well
> then the whole process of Cooperative Learning works easily.

One teacher resolved a problem he had with parents by informing them that "this is the way of the future and actually the new curriculum, the new textbooks, everything's designed towards group work."

Two teachers shared how they planned to adapt Cooperative Learning lessons to better fit their situations. One teacher was going to use Cooperative Learning in the subject area of math instead of language because of the inability of her grade 1/2 students to take on some of the written roles. Another said that she was presently looking for textbooks with Cooperative Learning activities built into them.

QUESTION #4: *What suggestions do you have for improving the implementation of Cooperative Learning?*

There were four main recommendations made. To begin with, an overwhelming 100% of the interviewees suggested that more follow-up help be made available to the teachers. Nine of the ten teachers suggested that this help be in the format of either formal refresher courses or informal

meetings and seminars. One teacher said that meeting once a month would suit her needs.

Another suggested that workshops be tailored to meet individual needs such as for specific grade

levels (primary, junior, intermediate, senior) and/or specific subject areas. As one teacher put it:

> It probably would have been beneficial to me to be able to get back together with
> people who had taken that course and look at where we are at and what our needs
> are, see who is having problems, share some ideas of how people are managing ...
> if I'm not encouraged to ... look at it again, I just may not.

Another teacher suggested:

> I think there has to be continuous support, even on a smaller scale, perhaps. Maybe
> someone or something, whether it's a small group or task force per se that perhaps
> visits schools, allows a release time ...I do think a lot of teachers are interested in
> Cooperative Learning but I think it needs to come to their level as opposed to being
> a one shot in the arm, here's your binder, go for it.

Aside from the follow-up workshops, three other suggestions to improve the implementation

of Cooperative Learning were made. The first was that Cooperative Learning should be the focus

of an entire school and not just one or two teachers from that school. The rationale behind this was

that "it's awfully hard for one person to sort of tow the line." When a teacher is using Cooperative

Learning within a school of traditionalists, it is difficult because there is a lack of collegial support.

The second suggestion was that experienced teachers should 'model' Cooperative Learning

for less experienced teachers. "If you model it, then people see that it's successful, then they would

be more receptive to it."

The last suggestion made was that Cooperative Learning should be made mandatory at the

Faculty of Education. In this manner, new teachers would graduate with some basic knowledge and

techniques and would be more likely to consider Cooperative Learning as a part of their curriculum.

In conclusion, the implementation of Cooperative Learning in this board is not as the

facilitators would have hoped. According to the returned questionnaires, 51.6% of respondents

were in accordance with what the researcher-developers deem Cooperative Learning. Most of these

teachers had favourite methods of structuring positive interdependence, individual accountability and group processing into their Cooperative Learning lessons. The interviews revealed that only one participant had reached a comfort level with Cooperative Learning. Five of the ten interviewees were struggling with some aspect of Cooperative Learning, while three teachers were not even using it. The reoccurring theme of "time" was identified as a major obstacle to the implementation of Cooperative Learning and an overwhelming 100% of teachers suggested that more support be available for them.

CHAPTER 5

Discussion and Recommendations

Chapter Five is divided into four sections. The discussion of the major research questions is presented in the first section. The second section deals with the discussion of the research instruments. In the third section, recommendations are made with regards to the implementation of Cooperative Learning. Suggestions for further research are made in the last section.

The Major Research Questions

How are teachers using Cooperative Learning? Thirty-three teachers (51.6%) were meeting Johnson, Johnson and Holubec's (1994) requirements for their lessons in Cooperative Learning. This number exceeds the 10% that Slavin had estimated in an interview with Willis (as cited in Antil et al., 1998). It also exceeds the 5% Antil, Jenkins, Wayne and Vadasy (1998) discovered when they studied the prevalence of Cooperative Learning in elementary classrooms. However, keeping in mind that participation in this workshop was voluntary and that participation in the study was voluntary, 51.6% is most likely a high number. Given that only 64 of the 151 possible surveys were returned, it can be speculated that at least some of those who did not return their questionnaires did so because they were not using Cooperative Learning in their classrooms.

The other 48.4% of respondents selected parts of Cooperative Learning to implement. Several studies yield these similar findings. Hiatt and Sandeen (1990) studied the use of Cooperative Learning methods by eight elementary and seven secondary school teachers by way of interviews and observations. The 15 teachers received 18 or more hours of initial training and ongoing support for the duration of the study. Hiatt and Sandeen conclude that the teachers in their study selected a narrow range of Cooperative Learning strategies for their Cooperative

Learning lessons. Sparapani, Abel, Easton, Edwards and Herbster (1997) studied the use of Cooperative Learning by 11 classroom teachers by way of interviews and observations. They found that teachers "did use Cooperative Learning, but their use is not always consistent with what the scholarly literature about cooperative learning recommends" (p. 256). Similarly, Tomlinson, Moon and Callahan (1997) collated 449 teacher questionnaires about Cooperative Learning. When they compared the teacher description of Cooperative Learning methods used to the accepted standards, they found that fewer than 5% of responses could be deemed "Cooperative Learning." When asked if they used Cooperative Learning methods, the teachers in this 1997 study stated "yes" even though they did not necessarily meet the standards set-out by the researcher-developers. Once one starts dissecting Cooperative Learning into bits and pieces, one might ask at what point is it no longer deemed "Cooperative Learning" and its reported positive academic and social effects no longer valid?

The practice of picking and choosing what works best for oneself is apparent when one examines the ideal level of the data yielded from the second part of the questionnaire. Ten methods of structuring positive interdependence and individual accountability were taught in the board's workshops. Six methods of processing a Cooperative Learning lesson were also introduced. The results of this study show that most of teachers have favourite methods of structuring positive interdependence, individual accountability and processing into their Cooperative Learning lessons. Only four teachers (6.3%) had developed a repertoire of methods of structuring of all five basic elements into their Cooperative Learning methods. This finding is consistent with what Hiatt and Sandeen found in 1990. The teachers they studied also preferred to implement the five basic elements using a limited variety of methods. For example, their participants limited resources the most for structuring positive interdependence and selected "group product" as the favourite method

of structuring individual accountability.

Teambuilding, although not an essential element of Cooperative Learning according to the Johnson, Johnson and Holubec (1994) model, was examined in this study because it was an important part of this board's workshop. Teambuilding was the component that was used the least by the teachers.

The board's facilitators, it would seem, were clairvoyant in forecasting things to come. In September 1999, a program *Choices Into Action* (1999) was launched in the schools of Ontario. The purpose of this program is to help students "develop their learning skills, interpersonal skills, and knowledge and skills in the area of career planning..." (p. 3). One of the areas in this document deals with getting acquainted with peers via the use of teambuilding activities.

What difficulties are they experiencing? This question was answered using the interview section of the study. Part I of the interview, using the Concerns-Based Adoption Model of Levels of Use (Hall & Hord, 1981), indicates that only 1 person was managing at a comfortable level with Cooperative Learning (Level of Use IVA routine). The nine other interviewees were struggling with some aspect of Cooperative Learning. The Level of Use interview (Hall & Hord, 1981) was corroborated with the information gathered in the second part of the interview.

Part II of the interview, the open-ended questions, encouraged teachers to express their difficulties with Cooperative Learning. The difficulties experienced by the interviewees can be categorized into three main categories: educational climate, teaching assignments and Cooperative Learning itself. The educational climate at the time which this study was taking place was serious. Education reform was high on the list of the new provincial government. As a result, education in Ontario underwent a major reform and a demanding Ontario Curriculum was developed. Fifty percent of the teachers interviewed spoke of the new curriculum, its "back to the basics" approach

and its quick implementation, leaving teachers to struggle to meet its demands. Once all of the new curriculum has been assimilated, will teachers who were once using Cooperative Learning include it again in their repertoire of teaching strategies?

Teaching assignments was the next problem that plagued four of the ten teachers. The literature on Cooperative Learning shows no boundaries when it comes to grade level. But for some reason, four interviewees were struggling with grade and/or assignment changes. Will these teachers include Cooperative Learning in their repertoire once they have become accustomed to their new teaching assignments?

The last area of difficulty was with Cooperative Learning itself. Two of the teachers found that the preparation that goes into a Cooperative Learning lesson "overburdening." Hiatt and Sandeen (1990) found that this was the most important issue that plagued their teachers. The issue of the lack of planning time was the number one constraint reported by the teachers in their study.

Another two found that the preparation of the students for Cooperative Learning lessons demanding. It would be interesting to see if a teacher's burden would be eased if he/she were to receive a class that had already been introduced to Cooperative Learning methods.

How will/have they resolve(d) these difficulties? The solutions for resolving their difficulties were few in number. Three of the interviewed teachers had no immediate plans for doing anything about their difficulties. Two of the three mentioned they might try and resolve their difficulties once the year was over and they had dealt with the new curriculum.

Two other teachers had decided that they would have to resolve, for the moment, their difficulties on their own. They thought it was up to them to take ownership for their problems and to seek out the answers. Another explained how he was going to "hit the books" to find the answers to his problems. He was searching for textbooks with actual Cooperative Learning lessons in them.

Research Instruments

The two instruments used in this project were from the Concerns-Based Adoption Model (Hord, 1981; Loucks, 1983). The first instrument that was used was Innovations Configurations (IC) developed by Heck, Stiegelbauer, Hall and Loucks (1981). It was used to identify the components of Cooperative Learning and their ideal, acceptable and unacceptable variations. The checklist was then organized into a questionnaire to expedite the time it took for the participants to participate. The questionnaire was useful to the researcher on two counts. First, it provided information that was used to be compared to the researchers-developers methods of Cooperative Learning. It gave a global view of how many teachers were meeting the criteria specified by the Cooperative Learning researcher-developers. Secondly, it gave insight into how each of the six components was being used. Of the 50% of teachers who were meeting Johnson and Johnson's model, only 6% were doing so with a repertoire of methods. This indicates that teachers like to implement Cooperative Learning with a few favourite ways. Furthermore, all of the methods were used by several teachers with few outstanding favourites. Teachers chose the methods of implementing the components of Cooperative Learning which best suited them.

Recommendations

The data in this study suggest the following recommendations:

That the teachers need on-going assistance initially and during the implementation of Cooperative Learning. The board's initial workshop was not sufficient to propel the 10 interviewed teachers to the routine level of use. Only one made it there while the nine others were struggling with aspects of Cooperative Learning. Johnson (1992) suggest that "for a difficult teaching strategy like cooperative learning, several years of training and support may be needed to ensure that teachers master it" (p. 179). This was the number one recommendation by 100% of the interviewees.

That the type of assistance offered be tailored to meet individual needs. As the level of use illustrates, not all individuals learn at the same rate.

That Cooperative Learning, if it is to be fully implemented, be a school initiative. As one interviewee put it: "It's awfully hard for one person to tow the line." This suggestion is supported by Stearns (1999). When examining the implementation of Cooperative Learning in one school, this author found that training and implementing Cooperative Learning with only "incremental cohorts of teachers" resulted in a "fragmented group of teachers" (p. 104).

That assistance be readily available at the school level, including administrative support. Stearns (1999) implies that full-time facilitators are a necessity. These facilitators should not be principals or teachers as they do not have the time to offer the support that will be necessary.

That more preparation time be allotted for the planning of Cooperative Learning lessons.

That collaborative grade-level networks be set-up to allow teachers to prepare collaborative lessons, share in successes and address concerns and problems.

Suggestions for Further Research

Three suggestions for further research are presented in this section. The following two suggestions are directly related to the study itself:

Because this study was done during a difficult educational climate, it would be advisable to replicate the study to verify the accuracy of how many teachers are using Cooperative Learning. They are no longer on work to rule and should now have assimilated the new curriculum.

This study was done by method of questionnaire and interview only. A more comprehensive study would result if classroom and lesson observations were added.

The following suggestion has to do with the prevalence of Cooperative Learning:

The academic and social effects of Cooperative Learning are well documented in the literature. Research is lacking on Cooperative Learning's prevalence in the classroom. Research is needed to verify if the teachers who say they are using Cooperative Learning are really using Cooperative Learning by adhering to the specifications recommended by the researcher-developers?

Conclusion

The positive academic and social effects of Cooperative Learning are well documented in the literature. The teachers interviewed in this study believed in Cooperative Learning. They knew what Cooperative Learning should look like and were frustrated with the fact that they could not get there. From this study's findings, it appears that few teachers in this school board were using Cooperative Learning as it was meant to be used by the researcher-developers. The problem, for the most part, is not the product but rather the implementation of the product. If Cooperative Learning is to have staying power in this or possibly any board, attention needs to be paid to the six recommendations made above. Otherwise, we are setting Cooperative Learning up for failure.

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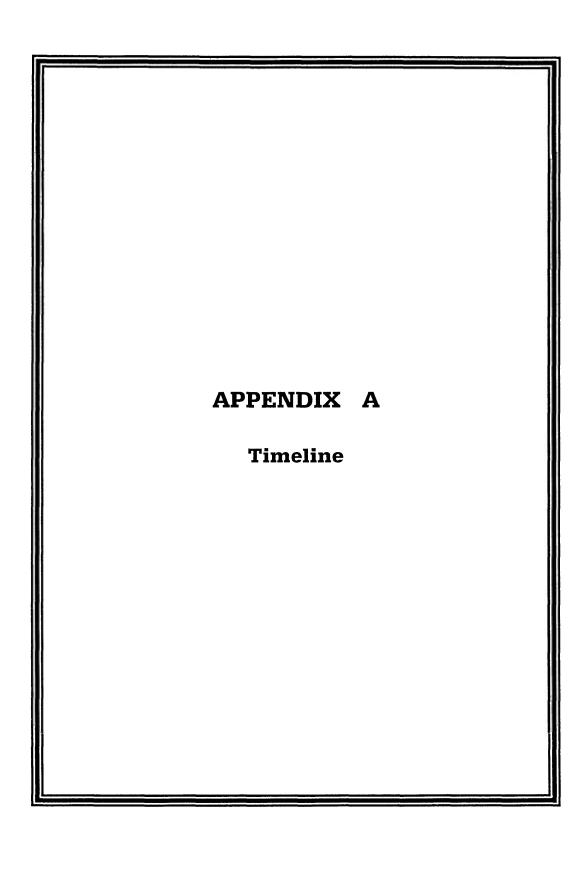
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APPENDIX   A

Timeline

TIMELINE	
DATE	**EVENT**
Summer 1993	■ 6 participants attend a workshop at another board
Winter 1994	■ the planning of the workshops for the board of this study
Spring 1994	■ delivery of Workshop #1
Fall 1994	■ delivery of Workshop #2
Spring 1995	■ delivery of Workshop #3
Winter 1996	■ delivery of Workshop #4
Winter 1997	■ delivery of Workshop #5
Summer 1998	■ pilot of questionnaire
Summer-Fall 1998	■ questionnaires mailed out and returned
Winter 1999	■ interviews

APPENDIX   B

Institute Design

In 1993, the school board, which is the focus of this study, implemented a plan to train interested teachers in Cooperative Learning methods. It first searched for volunteers who would be willing to attend a Cooperative Learning Institute, given by another board, in order to become facilitators for its own board. Six teachers of the Board being studied attended a three-day institute during the summer of 1993. During the Winter of 1994, based on the one that they had learned, these six individuals planned the delivery of a Cooperative Learning workshop involving two full days and two half days. Although all six facilitators would be present at every session, each one was assigned an area of expertise, based solely on interest, for presentation in the Board's workshops.

The structure of the Board's workshop follows the works of Bennett, Rolheiser-Bennett and Stevahn's (1991), *Cooperative Learning: Where Heart Meets Mind.* It is an activity-based workshop where participants learn by doing. The first full-day session commences with the introduction of a variety of teambuilders and classbuilders. These type of activities facilitate learning by creating a supportive, non-threatening classroom atmosphere where students feel accepted, included and empowered (Abrami et al., 1995). One example is the toilet paper activity. Students are required to tear off of a roll of toilet paper, the amount that they would need for an overnight camping trip. Then they are asked to tear the strip into squares using the perforated lines and pile the squares in front of them. Then, for every square of toilet paper they have, they must tell their group, or the class, something about themselves. Kagan (1992) has designed many such activities to be used as teambuilders and classbuilders. Several others, such as *Guess-The-Fib*, an activity where students must state two true facts and one fib about themselves were utilized throughout the workshop. Teammates must come to a consensus as to which one they believe to be the fib.

An overview of Cooperative Learning is then introduced in this session. This includes

teachers developing a rationale statement for using Cooperative Learning methods in their classrooms as well as highlighting supporting research. Johnson, Johnson and Holubec (cited in Bennett, Rolheiser-Bennett & Stevahn, 1991) report that when Cooperative Learning is implemented effectively, one can expect "higher self-esteem, higher achievement, increased retention, greater social support, more on-task behaviour, greater collaborative skills, greater intrinsic motivation, increased perspective taking, better attitudes toward school, better attitudes toward teachers, greater use of higher level reasoning and more positive psychological adjustment" (p. 14).

The first full-day workshop concludes with an introduction to the core of Cooperative Learning five basic elements (Bennett, Rolheiser-Bennett, & Stevahn, 1991) which must be present in every lesson.

Positive interdependence: All members of the group must realize that each person's efforts benefit her/himself as well as the group.

Individual accountability: The group is accountable for reaching its goals and every member of the group is accountable for doing his or her fair share.

Face-to-face interaction: The group works together, in close proximity to complete real tasks.

Social skills: Members learn interaction skills that enable the group to function effectively.

Group processing: Group members assess how well they accomplished their tasks and target improvements.

The second full-day session examines the five basic elements more thoroughly. To begin with, the grouping of students is examined. The types of groups that are formed will depend on many factors such as the age of students, the level of their interpersonal skills, the goals of

instruction, and the length of the activity (Abrami et al., 1995). Heterogeneous groups, as opposed

to homogeneous groups, are advocated in this workshop because research shows that students learn

best, both academically and socially, when working with a diversity of people (Abrami et al., 1995).

Social skills, also known as interpersonal skills, is the next basic element to be examined in

day two. Work teams are increasingly common in today's business world. The Conference Board

of Canada (1992) lists teamwork skills, along with academic and personal management skills, in

its *Employability Skills Profile*. The contention is that today's students need to learn how to

communicate and problem-solve with one another. Bennett, Bennett-Rolheiser and Stevahn (1991)

advocate the formal teaching of social skills in the classroom. A typical lesson begins with an

understanding of why social skill is important. For example, quiet voices helps students concentrate

on the task at hand, hear the speaker in the group and not disturb other groups. By using a

"T-chart", students list what "quiet voices" look like and sound like, giving the class something

concrete to emulate. The lesson concludes with an activity where the social skill can be practised.

The participants of the workshop work through this process using the social skill "greeting one

another".

The next basic skill examined in the workshop is positive interdependence. One of the main

differences between small group learning and Cooperative Learning is the way the extent to which

learning by the group members depends on the students working together. This is referred to as

positive interdependence which must be structured into every lesson. The teaching of this section

is the most tedious of the workshop. Bennett, Rolheiser-Bennett and Stevahn (1991) have

identified nine ways to structure interdependence in a Cooperative Learning lesson. These

approaches are goal, incentive, resource, role, sequence, simulation, outside force, environmental,

and identity interdependence. *Jigsaw*, a Cooperative Learning structure, is used to teach this

section. The material to be learned is divided into pieces with each piece given to only one group member. The learning of the content therefore relies on each group member mastering his or her piece of the puzzle and teaching it to the group. To achieve this, group members interact with members of other groups with the same piece of the puzzle to master the information and to plan ways to teach it to their respective Cooperative Learning groups upon their return to them.

The last two basic elements, individual accountability and group processing, are not formally taught in this workshop. They are, however, modelled in several different ways throughout the workshop and are discussed at these times.

Individual accountability is realized when each group member can demonstrate the knowledge learned in the group. In the workshop, individual accountability is structured into lessons in the following ways:

Peer and self-assessment of individual academic contribution

Role assignment

Task division

Member signature denoting agreement and participation

Observation and feedback about individual participation

Teambuilding activities that require individual input

Group identification that requires individual contribution

Group processing is also modelled in several different ways throughout the workshop. In Cooperative Learning, every lesson should be processed but not necessarily graded for marks. Evaluation can be summative, formative or simply a reflection where students analyse their own performance as individuals and/or of the group. Many checklists for self, peer and group evaluations are handed out throughout the workshop. The participants are also provided
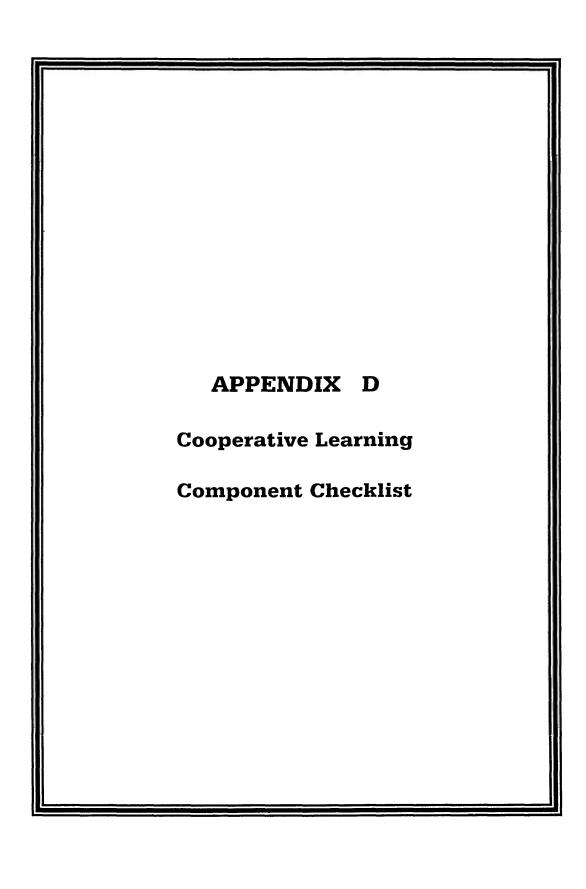
opportunities to group process quite often.

The role of the teacher is the next item to be examined in session two. Participants are put into groups and asked to brainstorm the decisions teachers must make prior to, at the starting of, during, and after a Cooperative Learning lesson. This activity prepares the participants for the planning of their own Cooperative Learning lesson. Participants are asked to find partners who teach in the same grade level and to prepare a 20-minute Cooperative Learning lesson which they will have the opportunity to teach to their colleagues during session three.

Session three, which is a half-day workshop, is devoted to the finalizing and presenting of the Cooperative Learning lessons. Each participant has the chance to witness two other lessons in addition to presenting his/her own. This is a great opportunity to share ideas and to brainstorm together the adaptability of the lessons to other grades.

Session four, the last half-day workshop, is devoted to a *Travelling Talk Show*. Several guests, namely principals and teachers who regularly use Cooperative Learning, are invited. The participants have the chance to meet and talk with these guests about their experiences. The workshop concludes with a mini-graduation ceremony.
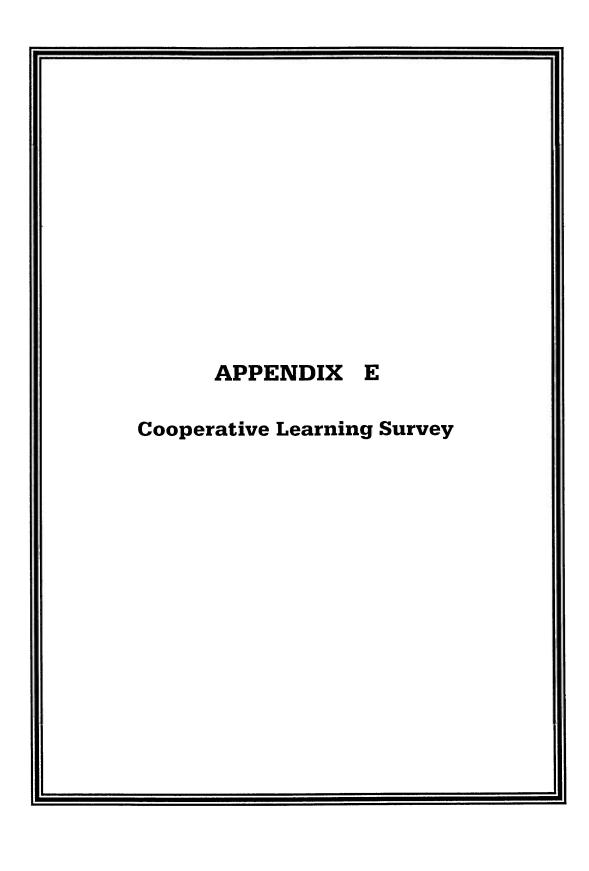
APPENDIX   C

Research Agreement

with the

School Board

APPENDIX D

Cooperative Learning

Component Checklist

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Cooperative Learning Component Checklist

</div>

1. Teambuilding
- ○ Teambuilding is structured in every lesson.
- ○ Teambuilding is used on average once a week.
- ○ Teambuilding is used on average once a month.
- ○ No teambuilding is used.

2. Grouping
- ○ Only heterogeneous groups are used.
- ○ Heterogeneous and homogeneous groups are used.
- ○ Only homogeneous groups are used.
- ○ Lessons are completely individualistic.

3. Positive Interdependence
- ○ Positive Interdependence is structured into every lesson, using a variety of methods throughout the year. (at least 6)
- ○ Positive Interdependence is structured into every lesson, using a variety of methods throughout the year. (at least 3)
- ○ Positive Interdependence is structured into every lesson, using at least 1 method
- ○ No positive Interdependence is structured into the lesson.

4. Individual Accountability
- ○ Individual Accountability is structured into every lesson, using a variety of methods throughout the year. (at least 6)
- ○ Individual Accountability is structured into every lesson, using a variety of methods throughout the year. (at least 3)
- ○ Individual Accountability is structured into every lesson, using at least 1 method throughout the year.
- ○ No Individual Accountability is structured.

5. Social Skills
- ○ Social Skills are actively taught, practiced and then structured into the lesson.
- ○ Social Skills are structured into the Cooperative Learning lesson.
- ○ No social skills are structured into the Cooperative Learning lesson.

6. Processing
- ○ Processing is done after each lesson, using a variety of methods throughout the year. (at least 5)
- ○ Processing is done after each lesson, using a variety of methods throughout the year. (at least 3)
- ○ Processing is done after each lesson, using a variety of methods throughout the year. (at least 1)
  No processing is done after the lesson.

Cooperative Learning Component Checklist

	(1)	(2)	(3)	(4)
1. Teambuilding	Teambuilding is structured in every lesson	Teambuilding is used on average once a week.	Teambuilding is used on average once a month	No teambuilding is used.
2. Grouping	Only heterogenous groups are used	Heterogeneous and homogeneous groups are used.	Only homogeneous groups are used.	Lessons are completely individualistic.
3. Positive Interdependence	Positive Interdependence is structured into every lesson, using a variety of methods throughout the year. (at least 6)	Positive Interdependence is structured into every lesson, using a variety of methods throughout the year. (at least 3)	Positive Interdependence is structured into every lesson, using at least 1 method.	No positive Interdependence is structured into the lesson.
4. Individual Accountability	Individual Accountability is structured into every lesson, using a variety of methods throughout the year. (at least 6)	Individual Accountability is structured into every lesson, using a variety of methods throughout the year. (at least 3)	Individual Accountability is structured into every lesson, using at least 1 method throughout the year.	No Individual Accountability is structured.
5. Social Skills	Social Skills are actively taught, practised, and then structured into the lesson.	Social Skills are structured into the Cooperative Learning lesson.	No social skills are structured into the Cooperative Learning lesson	
6. Processing	Processing is done after each lesson, using a variety of methods throughout the year. (at least 5)	Processing is done after each lesson, using a variety of methods throughout the year. (at least 3)	Processing is done after each lesson, using a variety of methods throughout the year. (at least 1)	No professing is done after the lesson.

∷   Left of the slashed line is ideal

▬   Left of the solid line is acceptable variation

▬   Right of the solid line is unacceptable variation

APPENDIX   E

Cooperative Learning Survey

Cooperative Learning Survey

July 24th, 1998

Dear Participant,

I am conducting a survey to explore how you are managing with Cooperative Learning. I am therefore requesting that you complete the enclosed survey as soon as possible and return it in the envelope provided. Please read each question carefully and answer as honestly as possible. Completing the questionnaire will take about 15 minutes. The results of the survey will be used in a Master of Education thesis and will also be shared with the Cooperative Learning team as well as with our organization.

Participation is voluntary and your completed questionnaire will remain confidential. To ensure confidentiality, please do not write your name anywhere on the survey. You can stop your participation at any time. Data from the survey will be stored for 7 years in accordance with ethics requirements.

If you have any questions or concerns, I can be reached at 344-1976.

Please accept a heartfelt thanks for your anticipated participation.

Yours truly,

Peggy Barrette

COOPERATIVE LEARNING SURVEY

PART I

Place an "X" in the appropriate box to the following information about you.

1. Gender   ◯ male   ◯ female

2. Age (at last birthday)

      ◯ 20-29   ◯ 30-39   ◯ 40-49
      ◯ 50-59   ◯ 60+

3. Total years in teaching

      ◯ 0-9   ◯ 10-19   ◯ 20-29
      ◯ 30+

4. Which level(s) have you taught for the last two years?

      ◯ Jk/Sk   ◯ Primary (1-3)   ◯ Junior (4-6)
      ◯ Transition (7-9)   ◯ 10-OAC   ◯ Other

5. Highest academic degree

      ◯ bachelor's   ◯ master's   ◯ doctorate

6. Which Cooperative Learning Institute did you attend?

      ◯ Spring 1994   ◯ Fall 1994   ◯ Spring 1995
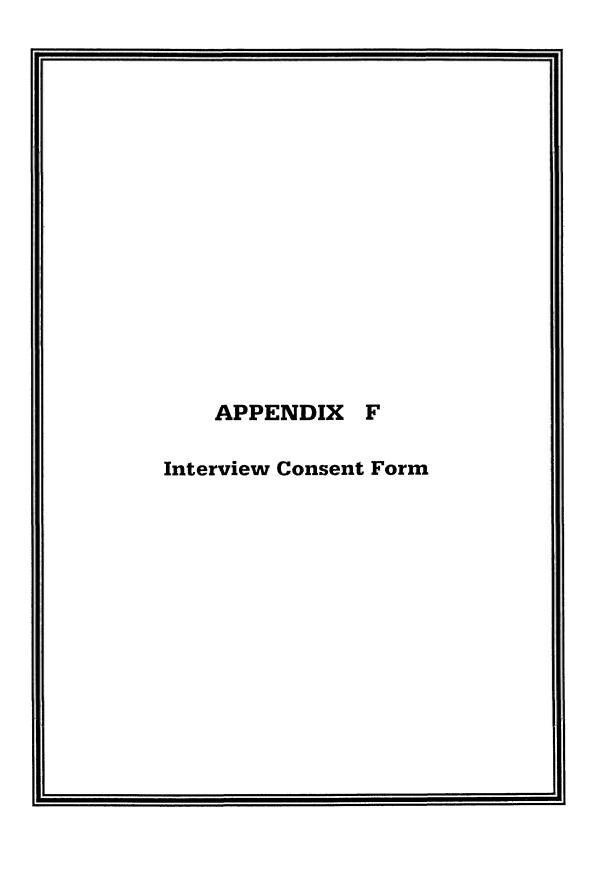   ◯ Winter 1996   ◯ Winter 1997   ◯ Other

PART II

Place an "X" in the appropriate box that most describes your Cooperative Learning lessons.

Teambuilding

- ○ Teambuilding is structured into every lesson.
- ○ Teambuilding is used on average once a week.
- ○ Teambuilding is used on average once a month.
- ○ No teambuilding is used.

Grouping

- ○ Heterogeneous groups are used exclusively.
- ○ Heterogeneous and homogeneous groups are used.
- ○ Homogeneous groups are used exclusively.
- ○ Lessons are completely individualistic.

Social Skills

- ○ Social Skills are actively taught, practiced, and then structured into the lesson.
- ○ Social Skills are structured into the lesson without any previous practice.
- ○ No Social Skills are structured into the lesson.

Is Positive Interdependence structured into every Cooperative Learning lesson?

○ yes (go to #4b)   ○ no (go to #5a)

4b. Place an "X" in ALL methods used *regularly* to structure Positive Interdependence in your Cooperative Learning lessons.

- ○ Goal
- ○ Incentive
- ○ Outside force
- ○ Resource
- ○ Simulation

- ○ Sequence
- ○ Role
- ○ Environmental
- ○ Identity
- ○ Communication

Is Individual Accountability structured into every Cooperative Learning lesson?

○ yes (go to #5b)   ○ no (go to #6a)

5b. Place an "X" in ALL methods used *regularly* to structure Individual Accountability in your Cooperative Learning lessons.

○ Individual testing and evaluation   Group rewards

Grades based on average of team members' score   Peer and self-assessment of individual academic assessment

Role assignment   Member signature denotes agreement and participation

Observation and feedback about individual participation   Teambuilding activities that requires individual contribution

Group identification that requires individual contribution   Random selection of team members' answers

Is Processing structured into every Cooperative Learning lesson?

○ yes (go to #6b)   ○ no

Place an "X" in ALL methods used *regularly* to structure Processing into your Cooperative Learning lessons.

○ Teacher observation and feedback   Self evaluation

Group discussion   Group check sheet (eg. participation pie)

Whole class discussion   Peer evaluation
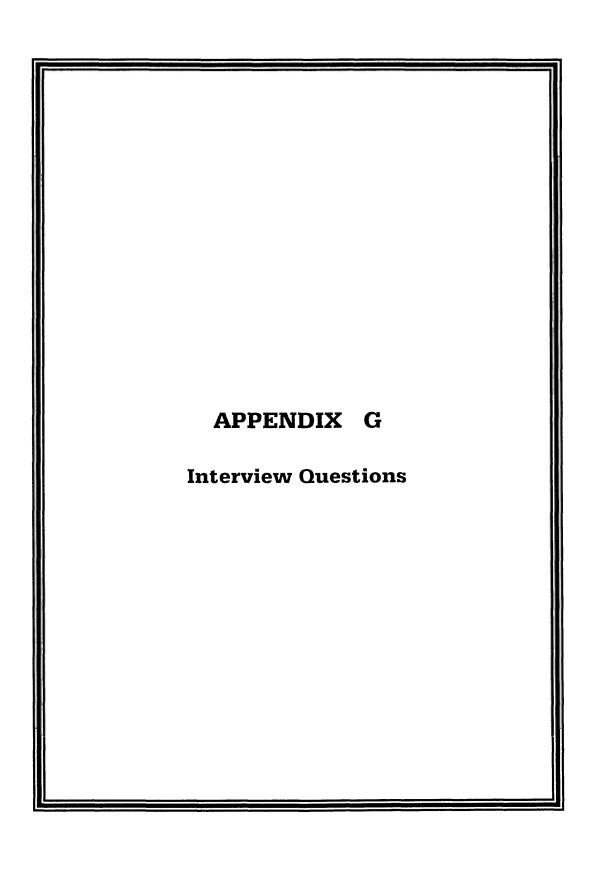
Thank you.

APPENDIX   F

Interview Consent Form

PARTICIPATION CONSENT FORM
(Cooperative Learning Teacher Interviewee)

My signature on this sheet indicates I agree to participate in a study by Peggy Barrette on Cooperative Learning and it also indicates the following:

1. I am a volunteer and can withdraw at any time.
2. There is no apparent risk of physical or psychological harm.
3. The data I provide will be confidential.
4. The data collection will consist of a half hour taped interview.
5. Although the school system may be inferred in the project, my identity will remain anonymous through careful disguising in the written analysis.
6. All materials taped will be kept for a period of 7 years from date of completion. I will receive a summary of the project, upon request, following the completion of the project.

I have received explanations about the nature of the study, its purpose, and procedures.

_____   _____
Signature of Participant   *Date*

_____
Signature of Researcher

APPENDIX   G

Interview Questions

INTERVIEW QUESTIONS

PART II

What opportunities do you use to maintain your skills in Cooperative Learning?

What difficulties are you experiencing in using Cooperative Learning?

How will/have you resolved these difficulties?

What suggestions do you have for improving the implementation of Cooperative Learning?

Level of Use Informal Interview

Q: Are you currently using Cooperative learning in your classroom?

Yes → Q: What change, if any, have you made in the use of Cooperative Learning?

- *Changes intended to help learner i.e., reorganization, resequencing, enrichment, elimination*
- *Going smoothly, no changes are being made* — LoU IVA
- *Changes intended for own benefit i.e., management, time, preparation, scheduling* — LoU III

No → Q: Have you decided to use Cooperative Learning and already have set a date for the start?

- **Yes** — LoU II
- **No** → Q: Are you currently looking for information about Cooperative Learning?
  - **Yes** — LoU I
  - **No** — LoU 0

Q: Are you coordinating your use of Cooperative Learning with other users?

- **Yes** — LoU V
- **No** → Q: Are you planning or exploring making major modifications?
  - **Yes** — LoU VI
  - **No** — LoU IVB