

THE EFFECT OF CO-OPERATIVE EDUCATION
ON CAREER DECISION MAKING OF
SECONDARY STUDENTS IN NEWFOUNDLAND

CENTRE FOR NEWFOUNDLAND STUDIES

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THE EFFECT OF CO-OPERATIVE EDUCATION
ON CAREER DECISION MAKING
OF SECONDARY STUDENTS IN NEWFOUNDLAND

by

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ABSTRACT

The purpose of this study was to determine whether or not Co-operative Education affects career decision making by secondary students in Newfoundland and Labrador. Five schools were involved in the study, with a total of 109 students responding. There were two groups of students involved in the study, an experimental group, students involved in Co-operative Education 2220 and a control group, students not involved in Co-operative Education. These students (both male and female) were in levels I to III and ranged in age from 14 to 19. All students were pre-tested at the beginning of the school year and were post-tested at the end of the school year using The Career Decision Scale (1976) to discover levels of career certainty and career indecision. The study used a quasi-experimental method for randomized samples. Using an analysis of covariance (ANCOVA) the researcher discovered that Co-operative Education did in fact affect career decision making. That is, Co-operative Education students are more certain after completing Co-operative Education than are the control group of students. However, both groups became more certain and had less indecision regarding a career at the end of the

school year, which could be due to a number of factors. Other career-related events also affect career decision making, including seeing a Guidance Counselor for career information and completing a Career Education Course.

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TABLE OF CONTENTS

	Page
ABSTRACT	i
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
CHAPTER	
I INTRODUCTION	1
IMPORTANCE OF THE STUDY	5
DEFINITION OF TERMS	6
LIMITATIONS	9
II CURRENT LITERATURE	11
III RESEARCH DESIGN	23
INSTRUMENT	24
SAMPLE	30
PROCEDURE	33
ANALYSIS	39
IV ANALYSIS AND FINDINGS	43
V CONCLUSION AND RECOMMENDATIONS	67
REFERENCES	79
APPENDIX	
A CO-OPERATIVE EDUCATION 1100 COURSE OUTLINE	

- B CO-OPERATIVE EDUCATION INFORMATION PACKAGE
- C SCHOOLS SELECTED FOR SURVEY, SCHOOLS INVOLVED IN
SURVEY AND EXPLANATIONS WHY REMAINING SCHOOLS DID
NOT PARTICIPATE IN SURVEY
- D CO-OPERATIVE EDUCATION, CAREER EXPLORATION VISIT
AND WORK EXPERIENCE WEEKS: AN EVALUATION
- E STUDENT COVER SHEET
- F LETTERS OF CONSENT
- G SCHOOL PROFILES
- H ETHICAL GUIDELINES FOR RESEARCH INVOLVING HUMAN
SUBJECTS
- I CERTIFICATE OF APPROVAL
- J COMMENTS FROM QUESTION 19, CAREER DECISION SCALE

LIST OF TABLES

Table 3.1	Reliability Scores for Newfoundland Students on The Career Decision Scale	28
Table 3.2	Description of Schools in the Study	31
Table 3.3	Information on Students in Sample	35
Table 3.4	Differences Between Groups in Sample	36
Table 4.1	Comparison of Mean Pre-test and Post-test Levels of Certainty and Indecision	44
Table 4.2	Mean Post-test Scores on Certainty	45
Table 4.3	Analysis of Variance of Program and Certainty	46
Table 4.4	Mean Post-test Scores on Indecision	47
Table 4.5	Analysis of Variance of Program and Indecision	47
Table 4.6	Mean Post-test Scores on Certainty	48
Table 4.7	Analysis of Covariance of Program and Certainty	48
Table 4.8	Mean Post-test Scores on Indecision	49
Table 4.9	Analysis of Covariance of Program and Indecision	49
Table 4.10	Mean Post-test Scores by Gender on Certainty	50
Table 4.11	Analysis of Covariance by Program and Gender on Certainty	51
Table 4.12	Mean Post-test Scores by Gender on Indecision	52

Table 4.13	Analysis of Covariance by Program and Gender on Indecision	52
Table 4.14	Mean Post-test Scores by Career Education Course on Certainty	53
Table 4.15	Analysis of Covariance by Program and Career Education Course on Certainty	54
Table 4.16	Mean Post-test Scores by Career Education Course on Indecision	55
Table 4.17	Analysis of Covariance by Program and Career Education Course on Indecision	55
Table 4.18	Mean Post-test Scores by Guidance Counselor on Certainty	56
Table 4.19	Analysis of Covariance by Program and Guidance Counselor on Certainty	57
Table 4.20	Mean Post-test Scores by Guidance Counselor on Indecision	58
Table 4.21	Analysis of Covariance by Program and Guidance Counselor on Indecision	59
Table 4.22	Mean Post-test Scores by Extra-Curricular Activities on Certainty	60
Table 4.23	Analysis of Covariance by Program and Extra-Curricular Activities on Certainty	61
Table 4.24	Mean Post-test Scores by Extra-Curricular Activities on Indecision	62
Table 4.25	Analysis of Covariance by Program and Extra-Curricular Activities on Indecision	62
Table 4.26	Mean Post-test Scores by Career Tools on Certainty	64

Table 4.27	Analysis of Covariance by Program and Career Tools on Certainty	64
Table 4.28	Mean Post-test Scores by Career Tools on Indecision	65
Table 4.29	Analysis of Covariance by Program and Career Tools on Indecision	66

CHAPTER I

INTRODUCTION

According to the Government of Newfoundland and Labrador (1992), Co-operative Education provides students with "the time to explore a number of occupational areas and to develop skills, knowledge and attitudes needed to become productive and satisfied members of society" (p. 1). Listed in the course objectives for Co-operative Education 1100, which is to be completed before or in conjunction with Co-operative Education 2220, are the following career related goals:

- Through self-evaluation checklists and other activities be able to identify personal values, possible limitations, areas of interest and aptitudes.
- To recognize individual beliefs regarding employment and to discover reasons for working.
- To explore related career information. (Government of Newfoundland and Labrador, 1992, pp. 5 and 6).

Students involved in Co-operative Education often comment on the effect this program has had on their career decision making. One Newfoundland student quoted in Smith

(1994) stated: "By completing Co-op Education courses, people can do the jobs they think they would like to have as a career instead of going to University for a couple of years and discovering they are studying for the wrong occupation" (p. 8). Another student commented: "I have learned many things from my Co-op experience about myself and the workforce. Most of all, I know what I want in my future and I am now determined to get it!" (p. 8). Employers tend to agree with these ideas. One employer quoted in Smith (1994) stated: "Basically, I think this type of education is a tremendous idea. It enables students to get a first-hand look at different careers and to gain some valuable experience to decide whether or not it's the right choice for them" (p. 9). Another employer stated: "This practical hands-on learning experience goes a long way towards helping students make informed career choices" (p. 9).

The Newfoundland and Labrador Co-op Education Sub-Committee is concerned that the current high school curriculum is not meeting all its objectives. Specifically, the committee states that objective #12 has not been completely addressed. This objective states that this

program intends to:

give pupils guidance in the choice of a career and to provide opportunities to begin preparation for occupational life (p. 3).

This committee was of the opinion that Co-operative Education can help address this issue.

This study was designed to assess whether students enrolled in Co-operative Education 2220 are more effective at career decision-making at the end of their Co-op experience. Specifically, the study assessed if Co-operative Education plays a role in career decision-making of secondary school students enrolled in Co-operative Education 2220 in the province. The two dependent variables used in the study were constructed from the Career Decision Scale developed by Osipow, Carney, Winer, Yanico and Koschier (1976). It was originally designed to measure the career certainty and career indecision of individuals and is deemed appropriate to use with secondary students. The major independent variable called program was the presence or absence of Co-operative Education 2220 offered in secondary schools in Newfoundland and Labrador. A course description of Co-operative Education 1100 which includes a

description of Co-operative Education 2220 is offered in Appendix A.

The study utilized two groups of high school students, an experimental group, students currently completing Co-operative Education and a control group, students not enrolled in Co-operative Education. The schools involved in the study were randomly selected from all schools in Newfoundland and Labrador offering Co-operative Education 2220 in the 1993-1994 school year. The students were pre-tested at the beginning of the school year and post-tested at the end of the school year using the Career Decision Scale. In each of these schools, all Co-operative Education students were asked to complete the pre-test and post-test, while the control group of the same size and characteristics that was developed from the school population completed the same assessment. A Co-operative Education teacher in each school was asked to administer the tests to both groups. See Appendix B for a Co-operative Education package supplied by the Co-operative Education Project, Division of Program Development, Newfoundland and Labrador Department of Education.

IMPORTANCE OF THE STUDY

This study was viewed as important to individuals who have decision making authority over the future of Co-operative Education in Newfoundland and Labrador. Co-operative Education is expensive to run and is labor intensive for teachers and employers involved. As Co-operative Education has been partially funded through the former federal Human Resource Development (HRD), and this arrangement has undergone a review, this study of Co-operative Education was viewed as important. In 1995, HRD ceased to fund new Co-operative Education initiatives. The Department of Education, in consultation with school boards, schools, and other interested persons now have the responsibility of making decisions affecting the disposition of Co-operative Education in the schools of the province.

If one of the objectives of Co-operative Education is to aid in career decision making, but the program is not doing so, then Co-operative Education may not be fulfilling its mandate.

DEFINITION OF TERMS

For the purpose of this study, it is important to define key terms that are used.

- . Career Based Co-operative Education: This type of education aims to allow students to explore occupations of interest to them and to gain "hands-on" experience in the world of work (Government of Newfoundland and Labrador, 1992; Stacey, 1993).
- . Career Certainty: A measure of a students' level of "decidedness about the choice of a career or college major" (Slaney, 1985, p. 139). Career Certainty is also a trait measured by the Certainty component of the Career Decision Scale (Osipow, 1980).
- . Career Development: "The process of making a vocational choice" (Brown, 1976, p. 1).
- . Career Exploration: A process which seeks to give students an "opportunity to sample working conditions in a variety of occupations" (Bernard, 1986, p. 6),

through short-term, non-paid experiences (Stadt and Gooch, 1977).

- . Career Goals: "Long range objectives for future accomplishments that you'll carry out over a long period of time" (Bennett, 1977, p. 102).
- . Career Indecision: "The inability of the individual to select, or commit himself to a particular course of action which will eventuate in his preparing for and entering a specific occupation" (Herr and Cramer, 1992, p. 610). As well, it is the trait being measured by the Indecision Scale component of the Career Decision Scale (Osipow, 1980).
- . Co-operative Education: An experiential method of instruction which integrates formal, in-school programs of study with periods of work in the community (either public or private sector). This combination of school and work is intended to enhance the total educational program of students (O'Connor and Barnes, 1989; Employment and Immigration Canada, 1985; Ulan, 1981; Ryder, Wilson and Associates, 1987).

. Subject-Based Co-operative Education: This type of Co-op program can be keyed to the objectives of a school subject, such as physics or computers. The program is designed to foster in-school learning through practical application in real life situations (Government of Newfoundland and Labrador Department of Education, 1992; Stacey, 1993).

LIMITATIONS

One limitation in completing the study was the availability of funds to conduct an exhaustive analysis. It was too expensive to run such a study, due to a number of factors that include: the cost of the Career Decision Scale test booklets, which have to be administered twice to each student, and the prohibitive cost of sending out the test booklets to all the students enrolled in Co-operative Education. To alleviate this limitation, a small sample was selected which is considered to be representative of the general population of secondary students in Newfoundland and Labrador.

A second limitation of this study was the response rate. Only five of sixteen schools that were randomly chosen to participate completed the questionnaires. A list of schools selected for the survey, those that completed the surveys, and explanations as to why the remaining schools did not complete the surveys (when known) are given in Appendix C. Because four of these schools are considered rural, a thorough rural/urban comparison was not possible. Due to this fact, it is important to keep in mind that the

results that follow are more indicative of conditions that exist in the rural experience as opposed to the urban experience in Newfoundland.

Due to the small response rate, any conclusions gathered through the analysis may only be considered reliable for those schools involved in the survey. Results may not necessarily be generalized to the rest of the schools, Co-operative Education students and Co-operative Education programs in Newfoundland and Labrador.

This study, which is exploratory in nature, is still considered valuable as a jumping off point in the study of Co-operative Education in Newfoundland and Labrador. Although the results may not be generalizable to all areas of the province, the analysis does answer some questions and, possibly more importantly, it raises others. More research is required to study Co-operative Education and career decision making of secondary students in Newfoundland and Labrador.

CHAPTER II

CURRENT LITERATURE

There is a large body of literature focusing on Co-operative Education and other types of work experience for both secondary students and post-secondary students. However, upon reviewing the material, it became apparent that there was limited information specifically focused on changes in career decision making skills that result from participating in Co-operative Education. Most of the information on Co-operative Education in current literature focused on the world of work and related skills development as a result of participating in this type of program. The effects of Co-operative Education on career decision making seem to take a back seat to other issues involved in Co-operative Education.

Choosing a career, or even a career direction, is one of the most important decisions a young person ever has to make. The satisfaction that a person receives from his/her work has a tremendous impact on his/her overall quality of life. According to the Government of Newfoundland and Labrador (1992), Co-operative Education "is an educationally

relevant approach to helping students make the most appropriate decisions relating to their future education and career plans" (p. 3). Through a high school Co-operative Education Program, students may explore various career opportunities. "This experiential form of learning assists students in making important decisions about a future career" (Government of Newfoundland and Labrador, 1992, p. 2). King (1986) agrees with this analysis when he states that "co-operative education is one way that high schools can serve the career education needs of its students" (p. 15).

Co-operative Education is a relatively new phenomenon to the Province of Newfoundland and Labrador. However, this is not the case in other areas of Canada. According to the Government of Newfoundland and Labrador (1992), "Co-operative Education programs at the secondary level have been established throughout Canada over the past twenty (20) years" (p. 2). In fact, Co-operative Education for some time been a fast growing area in secondary education in Canada" (Manual, 1985). As of the 1993-1994 school year, there were forty-two (42) schools (1200 students) throughout Newfoundland and Labrador offering Co-operative

Education programs (Government of Newfoundland and Labrador, 1994), the majority focusing on Career Exploration (O'Connor, 1993). The idea of Co-operative Education is catching on across Newfoundland and Labrador, with the number of schools involved having increased from fifteen (15) in the 1992-1993 school year (Government of Newfoundland and Labrador, 1994). Many of these programs were being offered through federal, Human Resources Development (HRD), funding.

Research involving Co-operative Education contains evidence that Co-operative Education is an established method of learning some of the skills (attitudes and behaviors) necessary to enter the world of work. There is ample evidence on the benefits of learning "work skills" and finding out about the "world of work" contained in Co-operative Education (Manual, 1985; Bennett, 1977; O'Connor and Barnes, 1989). Although there are few questions regarding these benefits and valuable outcomes, the benefit of assisting students with career decision making through Co-operative Education is less clear. It was difficult to find results of studies that discussed the career decisions of High School students involved in Co-operative Education.

This was surprising since evaluation is important in any program.

One benefit of Co-operative Education identified by O'Connor and Barnes (1989) was that it provided students with an opportunity to "explore a variety of careers through experientially based offerings" (p. 248). Cantor (1995) added "clarification of career interests and goals to make sure appropriate educational and/or occupational choices have been made" (p. 8) as another benefit. Bennett (1977) stated that the aim of Co-operative Education is to provide greater insight into careers through the combination of on the job experience and school.

A number of other authors (King, 1986; Ryder et al., 1987; Shaughnessy, 1986; Linklater, 1987; Manual, 1985; Wanat and Snell, 1980; McClure, Cook and Thompson, 1977) discussed the role of career development and career decision-making as an important aspect of Co-operative Education. Ryder et al. (1987), in a review pointed out that many researchers who have examined the reasons students participate in Co-operative Education. One reason given was to explore and clarify career goals. Co-operative

Education "enables the student to explore a possible career plan and make decisions about post secondary education" (Co-operative Education Manual, p. 2). The co-operative experience also provides students with a rich environment in which they can explore and test career choices (Ryder et al., 1987; McClure et al., 1977).

Shaughnessy (1986) notes that many students were not enrolled in Co-operative Education programs to get a job. Instead, they wanted to "explore careers before deciding on a post-secondary education program" (p. 45). Cantor (1995) stated that "by participating in cooperative education a learner has an early opportunity to experience and test a potential career choice before investing significant time and effort in formal education and training" (p. 7). In fact, "it is not uncommon for a student to return from a four-month placement, having decided that "that line of work isn't for me - thank goodness I found out before I went through three years of college!" (Manual, 1985, p. 21).

According to Dhanota, Wright and Toplak (1980), "there has been little evaluation of Canadian work experience programs" (p. 14). This observation was substantiated by

Oakley (1986), and Batstone (1988), and still seems to be the case. Although individual schools in Newfoundland and Labrador that offered Co-operative Education do complete an evaluation of the program at the end of the school year, the results of these evaluations are not publicized or generally known.

Dhanota et al. (1980) looked at the evaluations of some Co-operative Education programs in existence across Canada. These authors found that while there have been some attempts at evaluating Co-operative Education, none have focused on career decision-making of students. Wanat and Snell (1980) supporting the importance of evaluating a Co-operative Education program indicated that "a Co-operative Education program needs periodic evaluation regardless of how successfully it seems to be fulfilling its role and purpose" (p. 263).

In the Literature on Co-operative Education, much of the information on students' career decisions dealt with the goals of Co-operative Education, not with its results. A number of authors discussed the importance of making clear the goals for Co-operative Education before an evaluation is

possible (Dhanota et al., 1980; Ryder et al., 1987; Linklater, 1967). Included in Dhanota et al. (1980) are a number of questionnaires and the results, which were developed and administered in Ontario to assess the goals and outcomes of a number of programs, Co-operative Education included (See Appendix D for a copy of one of these questionnaires). One of the goals gleaned from the questionnaire was "to evaluate future career or provide an opportunity to consider different types of work after graduation" (p. 72). Again, career exploration was viewed as a goal of Co-operative Education programs and little attention was given to the resultant career decision capability of the student.

One statement presented in the questionnaire on Co-operative Education reprinted in Dhanota et al. (1980) looked directly at career decision making. This statement sought to have the respondent agree or disagree with the statement "the choice of what work I will do when I finish school is much clearer in my mind" (p. 83). The responses obtained were: Strongly Disagree - 0%, Disagree - 5.3%, Uncertain - 26.3%, Agree - 26.3%, and Strongly Agree - 42.1%. This appeared to indicate that, at least on this

questionnaire, students were more clearly decided as to what they wanted as a career after completing Co-operative Education.

Linklater (1987) discussed surveys that were administered to individuals involved in Co-operative Education that included students, faculty coordinators and employers. These surveys were designed to rank the goals of Co-operative Education. Included in the highest ranking goals were "to explore career choices" (p. 30). According to this survey, career exploration was an important aspect of Co-operative Education. Unfortunately, there was no follow-up survey included to see if this particular goal was being met.

Ryder et al. (1987) have looked at what college students gain from Co-operative Education. Along with a statistical analysis, these authors based their findings on observations and reflections from individuals who have had close dealings with Co-operative Education students. Ryder et al., along with Brown(1976), found an abundance of evidence to indicate that clarification of career goals, and an increased ability to prepare for a career occurs is an

outcome of Co-operative Education.

Many Co-op educators in a study by Shaughnessy (1986) indicated that their Co-operative Education students have learned more about career and life skills at the conclusion of their co-op placement than their counterparts not enrolled in co-op programs. Batstone (1988) also compared Co-operative Education and non Co-operative Education students using Co-op related knowledge to measure attitudes and decisions. Again, there was no direct focus on career decision making of students.

Simpson (1986) stated that "obviously, one of the primary aims of co-operative education is to give students the opportunity to explore career choices" (p. 25). Conway (1987) in his article affirmed that "there is no need to argue the merits of Co-operative Education programs. We all know the benefits our students, and society as a whole, derive from them" (p. 12). With a lack of clear evaluation to prove its' benefits, one is not in a position to assume that Co-operative Education helps students make intelligent career choices. Maurice (1984) acknowledges this phenomenon, but indicated that "there must be some

underlying reasons as to why Co-operative Education (co-operating) is necessary, and there must be some perception of the benefits to be gained before Co-operative Education can be established" (p. 20).

One popular view of Co-operative Education is that it "helps students in relating practice to theory, choosing a career, preparing for that career, [etc.]" (Weston, 1983, p. 27). McClure et al. (1977) wrote that career explorations help students "learn about particular occupations while refining their career selection skills by investigating the personal and educational/training prerequisites of specific jobs" (p. 36). Through work experience, the student "has the opportunity to test his interest in, and suitability for the occupation he is learning" (Brown, 1971, p. 7).

Based on current literature, it appears that many authors share similar views on the value of Co-operative Education. The review demonstrated that there is a lack of research which evaluates its merit as a way of enhancing the decision making capacity of individuals. Stern, Finkelstein, Stone, Latting and Dornsife (1995) believe that there is little evaluation on Co-operative Education because

there has been a lack of interest in the past few years. These authors state that "in recent years there have been only one or two significant inquiries into high school cooperative education" (p. 18).

The prevailing assumption is that Co-operative Education is beneficial to students in a number of ways, including career exploration. It is necessary to evaluate these programs to better quantify assumptions that they are working in Newfoundland and Labrador schools. More research and evaluation is required on this topic.

Although the review of current literature provided evidence that clearly defined the goals for Co-operative Education, they largely failed to uncover any studies that dealt with the outcomes associated with the program. The literature revealed that there were strong links between students' ability to make a career decision and their enrolment in Co-operative Education. The literature also revealed that there was a scarcity of published research on the effects of Co-operative Education on students' career decision-making. Although most authors accept career decision-making as an outcome of Co-operative Education,

very few cited any research to support this belief.

Other authors have noted the lack of literature on Co-operative Education. Batstone (1988) reviewed the Literature and noted that "it became clear that there exists very little published Canadian research at either secondary or post secondary levels" (p. 28). Oakley (1986) substantiated this view, stating that "there have been very few evaluations of work experience programs reported in the literature" (p. 2).

One cannot assume that a program works simply because it is believed to work in other places, or because it seems to work, or that it can be justified on the merit of it's goals. Evaluations of programs are viewed as necessary, especially when the expense (in both time and monetary terms) for such a program is considered very large.

CHAPTER III

RESEARCH DESIGN

The purpose of this research was to study the link between Co-operative Education and students' career decision-making. The hypothesis was that involvement in a Co-operative Education program increases the career-decidedness of students. Specifically, students will be more certain and have less career indecision after completing Co-operative Education than before the Co-op experience in comparison to those students not completing Co-operative Education.

To ascertain if Career Exploratory Co-operative Education fulfills the goal of career decision-making, a study using a pre-test and a post-test on two groups of students was undertaken. The experimental group was made up of students enrolled in Co-operative Education 2220, while the control group was made up of non Co-operative Education students. The scale used to complete the study was the Career Decision Scale (CDS). The treatment in this research was the Co-operative Education course 2220 as offered in secondary schools in Newfoundland and Labrador. (For more

specific information, refer to the course outline in Appendix A).

INSTRUMENT

The instrument chosen for this research was the Career Decision Scale. This scale was chosen for its characteristic of being "a rapid and reliable instrument for surveying high school and college students about their status in the decision-making process" (Osipow, 1980, p.1). The scale was designed to measure the construct of career decidedness, is considered "extremely well developed and researched" (Harmon, 1985, p. 270) and is useful to researchers interested in career decision making (Slaney, 1988). This scale has a moderate reading level and is appropriate for high school students of both sexes (Osipow, 1980; Slaney, 1985).

The Career Decision Scale uses a four-point Likert scale. The original Scale was comprised of 16 items and looked at Career Indecision. The more recent form which was used in this research is comprised of nineteen (19) items, with only the last item being open-ended. These nineteen

items "measure the degree to which respondents report that the individual career related items described them and their particular circumstances" (Slaney, 1988, p. 46).

The Career Decision Scale

is contained on a four-page, 7" x 8 1/2" sheet with detailed, clear instructions on the front page for responding to the simple format. A sample question and answer are then followed by the 19 items. Opposite each item are the numbers, 4, 3, 2, and 1 (4 = "exactly like me"; 3 = "very much like me"; 2 = "only slightly like me"; 1 = "not at all like me"). Respondents are asked to circle the number which most accurately describes their situation in relation to each of the items (Slaney, 1988, p. 47).

The scale was set up so it measures both career certainty and career indecision. "Items one and two comprised a certainty scale which provides a measure of the degree of certainty that the student feels in having made a decision about a career. Items three through eighteen constitute the indecision scale, a measure of career indecision" (Osipow, 1980, p. 1). A high score on the

certainty scale connotes a high level of career certainty, while a high score on the indecision scale indicates career indecision (Herman, 1985).

The Career Decision Scale was chosen for its ability to differentiate between certain (decided) and undecided students (Herr and Cramer, 1992). This scale was viewed as suitable to measure outcomes in program evaluation as it "may be administered in a program evaluation context to groups of students before and after career counseling interventions" (Herman, 1985, p. 270) and is "useful in assessing groups when career interventions are being contemplated and is highly recommended for these uses" (Harmon, 1985, p. 270).

The reliability and validity of this scale have undergone review, and are reported in the Career Decision Scale manual (Osipow, 1980). "Validity is concerned with what a test measures and for whom it is appropriate; reliability refers to the consistency with which a test measures whatever it measures" (Gay, 1992, p. 154). Osipow (1980) reports "two retest correlations of .90 and .82 for the Indecision scale for two separate samples of college

students (N=50, N=59, respectively). Item correlations for the Certainty and Indecision scales ranged from .34 to .82, with the majority of correlations falling in the .60 to .80 range" (p. 4). "Retest coefficients for the scale as a whole are reported in the range of .70 to .90" (Herman, 1985, p. 271). The validity of the scale "has been demonstrated by studies showing the scale's expected relationships among a variety of hypothetical constructs...and the scale's sensitivity to relevant changes following treatments designed to reduce career indecision" (Osipow, 1980, p. 6).

A test of reliability was performed using Cronbach's Alpha for the group of students involved in this study. This instrument is reliable for this particular group of Newfoundland secondary students. Both on the pre-test and the post-test, the reliability for the certainty scale and the indecision scale were appropriate. Table 3.1 gives the reliability scores for this research.

Table 3.1
Reliability Scores for Newfoundland Students
on the Career Decision Scale

	Pre-test	Post-test
Certainty	.7451	.7596
Indecision	.8593	.8732

It was important that a cover sheet be included with each questionnaire (for both groups) which collected other factors which could influence career decisions, i.e. Junior Achievement, Career Education Course, etc. Information gathered from these cover sheets enabled the researcher to complete the analysis taking into consideration the other factors. These cover sheets were important for analysis purposes since they surveyed factors such as gender, completing a Career Education course, being involved in career related extra-curricular activities (i.e. a part-time job), and completion of one or more career decision making tools. See Appendix E for a copy of the student cover sheet.

Teacher questionnaires were completed by each Co-operative Education teacher involved in the research.

Information gathered from this questionnaire was not used in the analysis component of this research. However, pertinent comments obtained from these questionnaires are included in the conclusion.

SAMPLE

There were 66 schools in Newfoundland and Labrador offering Co-operative Education (all courses) in the school year 1993-1994 (Government of Newfoundland and Labrador, 1994). Out of these 66, 45 schools were offering Co-operative Education 2220 (O'Connor, 1993). A random sample was then obtained from the 45 schools offering Co-operative Education 2220. The sample was 20% of all schools offering Co-operative Education 2220 in Newfoundland. A male/female split was determined for comparison purposes once the questionnaires were returned to the researcher.

Of the schools selected for the study, five responded with completed questionnaires, both pre-test and post-test for both the treatment group and the control group. Each school that responded was given a number (one through five) to allow the researcher to discuss the results without compromising confidentiality. Table 3.2 describes the five schools involved in the study.

Table 3.2
Description of Schools in the Study

School	Location	Urban/ Rural	Nature of school	Guidance Counselor
Leo Burke Academy	Bishop's Falls	rural	7-12	yes
Botwood Collegiate	Botwood	rural	9-12	yes
Lewisporte Int. High	Lewisporte	rural	7-12	yes
G. Shaw Collegiate	Chapel Island	rural	7-12	yes
Gander Collegiate	Gander	urban	10-12	yes

Rural and urban populations are simply defined; a population of 5000 or more is considered an urban center, a population of under 5000 is considered rural (Statistics Canada, 1992). It is important to note that Gander, although it is considered urban, can be actually be considered a small urban area.

There were two groups of students involved in this survey. The experimental group was composed of students currently enrolled in Co-operative Education 2220. The control group consisted of students in the same schools who

were not enrolled in Co-operative Education. These students were randomly selected from the same pool of students as those completing Co-operative Education. This control group of students were eligible to complete Co-operative Education 2220, but had not chosen to do so at the time of this research.

PROCEDURE

Once the schools were selected, permission to complete the study was sought. The initial step was to send letters to the superintendents whose schools would be involved in the study. Once written permission was obtained, the researcher then sent similar letters to the principals involved. Next, individual Co-operative Education teachers were contacted, as these were the persons who would be actually taking the responsibility of getting students to complete the forms. Once written permission was obtained, the entire package was forwarded to them. This package included: an introductory letter; a questionnaire for the teacher to complete; the correct number of the Career Decision Scales and questionnaires; student permission letter and forms; and a copy of the parent permission letter and form. At each step a copy of a letter of support from the Manager of Curriculum and Learning Resources in the Newfoundland and Labrador Department of Education, as well as a self-addressed, stamped envelopes to make it easier for all involved, were included. A copy of each letter and permission form are included in Appendix F.

The Career Decision Scale was administered in a group setting within each school. Students in the experimental group were pre-tested using the Career Decision Scale before entering Co-operative Education 2220 to ascertain where they were in the career decision-making process. Students in the control group were pre-tested at the beginning of the school year. Both groups of students were then post-tested at the end of the school year using the Career Decision Scale to see whether they were more certain and less undecided about their particular career choices after their experiences in Co-operative Education.

Each school in the study offered Co-operative Education 2220 as a component of the High School curriculum. Each school had a Guidance Counselor on staff who was available to students for career planning. A table giving information on each Co-operative Education program is included in Appendix G.

In the pre-test, a total of 129 students from the five participating schools completed the Career Decision Scale. In the post-test, there were a total of 109 returned assessments. The missing students were not accounted for in

the information returned from the schools. The breakdown of students is given in the following table.

Table 3.3
Information on Students in Sample

School	group	# of students	male	female	mean grade	mean age
#1	Co-op. Ed.	11	3	8	12.00	16.82
	Control group	16	6	10	11.75	16.81
#2	Co-op. Ed.	11	4	7	12.00	16.82
	Control group	10	4	6	11.90	17.00
#3	Co-op. Ed.	14	7	7	11.50	16.50
	Control group	9	4	5	11.33	16.33
#4	Co-op. Ed.	11	2	9	12.00	17.18
	Control group	9	4	5	11.00	15.78
#5	Co-op. Ed.	11	7	4	11.18	16.18
	Control Group	7	3	4	10.43	15.14
Totals		109	44	65	11.51	16.46

Students in both the treatment and control groups ranged

in age from 14 to 19 years. The average age of Co-operative Education students was 16.7 and the average age of non-Co-operative Education students was 16.4. This is a statistically significant difference. The students in both groups range from grade 10 to grade 12 (level I to level III). The average grade level for Co-operative Education students was 11.7 and the average grade for the control group was 11.4. This was a statistically significant difference. Table 3.4 shows these averages.

Table 3.4
Differences between Groups in Sample

	Average Age	Average Grade
Co-operative Education	16.7	11.7
Control Group	16.4	11.4

In gathering evidence related to the findings discovered by this study, it was important to note that the confidentiality of all subjects be maintained. The researcher was bound by the guidelines found in the "The Ethical Guidelines for Research Involving Human Subjects", set out by the Ethics Committee - Faculty of Education, Memorial University of Newfoundland (see Appendix H). Also see

Appendix I for Certificate of Approval from the Ethics Committee for the research undertaken by this researcher.

Total scores were calculated for all students in the study who completed both the pre-test and post-test. The scores for both certainty, as measured by items one and two, and indecision, as measured by items three through eighteen, on the Career Decision Scale were used when discussing the career decision making of all students involved in the study. Question nineteen was an unscored open-ended item that allowed respondents to add their own self-description (Harmon, 1985). According to Slaney (1985), this item "may offer clues to issues of concern to respondents...although the published studies on the scale thus far have simply disregarded it" (p. 139). Information gathered from this question was not used by the researcher. However, informative comments from students are included in the conclusions section of the research. Representative comments from students are included in Appendix J.

SPSS for MS Windows was used to compile and analyze the data collected. The Statistical Package for the Social Sciences (SPSS) is "one of the most useful and popular

statistical packages... is used internationally and has been in use for nearly 25 years" (Gay, 1992, p. 479).

SPSS is a comprehensive and flexible statistical analysis and data management system. SPSS can take data from almost any type of file and use them to generate tabulated reports, charts and plots of distributions and trends, descriptive statistics and complex statistical analyses (Norusis, 1993, p. iii).

ANALYSIS

An analysis of the research question was done through a comparison of the mean scores of the pre-test and post-test. The researcher decided to use a simple or one-way analysis of variance (ANOVA) to compare the mean scores of the two groups. The ANOVA is generally used in experimental studies to determine whether there is a significant difference between means at a selected probability level (Gay, 1987; Huitema, 1980). This study was considered a non-randomized experiment or a quasi-experiment. According to Gay (1992) a quasi-experimental design does "provide adequate control of sources of invalidity" (p. 358). In this type of experiment, because differences between the groups a major extraneous variable was identified, analysis of covariance can be used to statistically equate the groups (Gay, 1992).

Because of this design, the most appropriate way to analyze the type of data associated with the study is to complete an ANCOVA for each covariate (Wildt and Ahtola, 1978). This statistical technique allows the researcher to statistically equate the randomly formed groups with respect to one or more of the variables which were relevant to the

dependent variable, and to increase the power of the statistic (Popham and Sirotnik, 1973; Gay, 1992). According to Huitema (1980), the ANCOVA "is generally the preferred method of analyzing the randomized pretest - posttest design" (p. 155). More specifically, Popham and Sirotnik (1973) state that using an ANCOVA "allows the researcher to study the performance of several groups which are unequal with regard to an important variable as though they were equal in this respect" (p. 205). "Use of covariance is essentially equivalent to matching groups on the variable or variables to be controlled" (Gay, 1992, p. 440). The covariate is a quantitative independent variable which influences the dependent variable.

This relationship is not of primary concern to the researcher (the covariate is considered a nuisance variable). The quantitative independent variable (covariate) is included in the analysis either to remove extraneous variation from the dependent variable ... or to remove bias due to the groups not being matched on that quantitative independent variable (Wildt and Ahtola, 1978, p. 8).

The ANCOVA was thus viewed as the best method to use for this type of research. It statistically controlled for pre-

existing differences (i.e., the pre-test). This type of analysis "allows for one test for mean differences between two or more groups while compensating for initial differences between the groups with respect to relevant variables, thereby increasing the precision of the statistical tests" (Popham and Sirotnik, 1973, p. 212). "By using covariance we are attempting to reduce variation in posttest scores which is attributable to another variable" (Gay, 1992, p. 441).

The ANCOVA "may be used when a relationship is being studied between a dependent variable and two or more groups representing an independent variable" (Popham and Sirotnik, 1973, p. 205). The dependent variable is Co-operative Education 2220. The researcher looked at other possible program factors which could be contributing to any effect such as:

- extra curricular activities both within and outside the school (this could include Job-shadowing, Career Day, Junior Achievement, etc.)
- a Career Education course
- use of Career Decision Making Tools
- having seen a Guidance Counselor for career plans.

Other individual factors that could affect career decision

making could include maturation and history of the student.

It was the researcher's opinion that including a control group as a covariate in the sample would give a better view of how a program such as Co-operative Education could affect career decision making. "The control group is needed for comparison purposes to see if the new treatment is more effective than the usual or traditional approach" (Gay, 1992, p. 299).

CHAPTER IV

ANALYSIS AND FINDINGS

One of the more interesting findings of this research was that the two groups of students, Co-operative Education students and non Co-operative Education students, were unexpectedly different. That is, where one would expect to find that both groups are similar in the career decision process at the beginning of the research (since both groups are similar in many other areas), this is not the case. While both groups were similar on the Indecision Scale, the Co-operative Education group was significantly more certain, (based on the Certainty Scale), than the non Co-operative Education group was at the beginning of this research. The analysis showed that the two groups, Co-operative Education and control, were significantly different in the pre-test on the Certainty Scale. Tables 4.1 to 4.5 show the statistical breakdowns of this information. Why, when both groups come from the same population are there differences in career certainty? There were a number of possible explanations for these results which will be reviewed in Chapter 5.

When looking at the means, both groups involved in the

study did, in fact, increase in their certainty level from the pre-test to the post-test. The Co-operative Education group's mean on the Certainty Scale increased 0.74. The non Co-operative Education group had an increase of 0.55 on the Certainty Scale. There were no significant differences between the Co-operative Education group and the non Co-operative Education groups on the Indecision component of the scale in the pre-test. The Co-operative Education group had an average increase on the indecision scale of 0.5. The control group had an average increase on the Indecision Scale of 0.4. Table 4.1 shows the mean levels of certainty and indecision for both groups.

Table 4.1
Comparison of Mean Pre-test and Post-test
Levels of Certainty and Indecision

Program	Scale	Pre-test	Post-test
Co-operative Education	Certainty	5.1	5.8
	Indecision	4.4	3.9
Non Co-operative Education	Certainty	4.2	4.7
	Indecision	4.5	4.1

There were significant differences in the post-test, however, controlling for the pre-test indecision scores the Co-operative Education program did not provide evidence of any significant difference on post-test indecision scores. The level of indecision, as measured by the Indecision component of the scale decreased for both groups in the study, but neither decreased significantly.

A one-way ANOVA was completed to ascertain whether or not Co-operative Education affects career certainty, as measured by items one and two on the Career Decision Scale. Table 4.2 identifies the mean results on the Certainty Scale for both groups. Table 4.3 shows the results on the pre-test in which the variables are career certainty and program, Co-operative Education versus the control group.

Table 4.2
Mean Post-Test Scores on Certainty

Group	Count	Mean	SD
Co-operative Group	58	5.1034	1.5411
Control Group	50	4.1600	1.5566
Total	108	4.6667	1.6119

Table 4.3

Analysis of Variance of Program and Certainty

Source	SS	DF	MS	F Ratio	F Prob.
Between Groups	23.9007	1	23.9007	9.9704	.0021
Within Groups	254.0993	106	2.3972		
Total	278.00	107			

This ANOVA shows that on the Certainty Scale, there is a significant difference between the Co-operative Education group and the control group in the pre-test ($P < .05$). The Co-operative Education group was significantly more certain about a career than the control group prior to them experiencing the Co-operative Education program.

A one-way ANOVA was completed to ascertain whether or not Co-operative Education affects career indecision, as measured by items three through eighteen on The Career Decision Scale. Table 4.4 identifies the mean results of both groups on the Indecision Scale. Table 4.5 shows the results on the pre-test in which the variables are career indecision and program, Co-operative Education versus the control group.

Table 4.4

Mean Post-Test Scores on Indecision

Group	Count	Mean	SD
Co-operative Group	58	32.2931	8.5080
Control Group	51	34.00	8.7063
Total	109	33.0917	8.6040

Table 4.5

Analysis of Variance of Program and Indecision

Source	SS	DF	MS	F Ratio	F Prob.
Between Groups	79.0653	1	79.0653	1.0687	.3036
Within Groups	7916.0172	107	73.9815		
Total	7995.0826	108			

This ANOVA shows that there was not a significant difference between the Co-operative Education group and the control group on the Indecision Scale on the pre-test at the .05 confidence interval. The Co-operative Education group was not significantly less decided about a career in the beginning than the control group.

A one-way ANCOVA was completed to ascertain whether or

not Co-operative Education affects career certainty. Table 4.6 identifies the mean results on the post-test certainty scores for both groups. Table 4.7 shows the results on the post-test in which program is the factor and the certainty score on the pre-test is the covariate.

Table 4.6
Mean Post-Test Scores on Certainty

PROGRAM	Co-operative Education	Control Group
Mean	5.84	4.72
#of respondents	58	50

Table 4.7
Analysis of Covariance of Program and Certainty

SOURCE	SS	DF	MS	F	SIG of F
Covariate	77.378	1	77.378	34.033	.000
Main Effects	11.552	1	11.552	5.081	.026
Within	238.727	105	2.274		
Total	327.657	107	3.062		

The ANCOVA shows that on the Certainty Scale the F score of 5.081 is seen to be significant ($P < .05$). This

suggests that Co-operative Education is influencing career certainty in the post-test.

A one-way ANCOVA was completed to ascertain whether or not Co-operative Education affects career indecision. Table 4.8 identifies the mean results on the post-test indecision scores of both groups. Table 4.9 identifies the results on the post-test in which program is the factor and the indecision score on the pre-test is the covariate.

Table 4.8
Mean Post-Test Scores on Indecision

PROGRAM	Co-operative Education	Control Group
Mean	29.41	32.73
#of respondents	58	51

Table 4.9
Analysis of Covariance of Program and Indecision

SOURCE	SS	DF	MS	F	SIG of F
Covariate	2867.820	1	2867.820	62.467	.000
Main Effects	143.660	1	143.660	3.129	.080
Within	4866.373	106	45.909		
Total	7877.853	108	72.943		

The ANCOVA shows that on Indecision Scale the F score of 3.129 was not found to be significant at the .05 confidence interval. Even so, there is a possible trend toward less career indecision, even though it is not statistically significant.

A two-way ANCOVA was completed to ascertain whether or not program and gender interact to affect career certainty. Table 4.10 identifies the mean results on the post-test certainty scores of both groups, by gender and program. Table 4.11 identifies the results on the post-test in which program and gender are compared on the pre-test certainty scores.

Table 4.10

Mean Post-Test Scores by Gender on Certainty

PROGRAM	Male (mean)	Female (mean)
Co-operative Education	5.39 (N=23)	6.14 (N=35)
Control Group	4.85 (N=20)	4.63 (N=30)

Table 4.11

Analysis of Covariance by Program and Gender on Certainty

SOURCE	SS	DF	MS	F	Sig of F
Covariate	77.378	1	77.378	34.162	.000
Main Effects	11.999	2	5.999	2.649	.076
Program	11.552	1	11.552	5.100	.026
Gender	.447	1	.447	.197	.658
2-way interactions	4.982	1	4.982	2.200	.141
Within	233.298	103	2.265		
Total	327.657	107	3.062		

The ANCOVA shows that on the Certainty Scale, the F score of 0.197 was not found to be significant at the .05 confidence interval. Gender is not interacting with program to have an effect on career certainty on the post-test.

A two-way ANCOVA was completed to ascertain whether or not program and gender plays a role in career indecision. Table 4.12 identifies the mean results on the post-test indecision scores by gender and program. Table 4.13 identifies the results on the post-test in which program and gender are the factors and the indecision score on the pre-test is the covariate.

Table 4.12

Mean Post-Test Scores by Gender on Indecision

PROGRAM	Male (mean)	Female (mean)
Co-operative Education	30.48 (N=23)	28.71 (N=35)
Control Group	34.29 (N=21)	31.63 (N=30)

Table 4.13

Analysis of Covariance by Program and Gender on Indecision

SOURCE	SS	DF	MS	F	Sig of F
Covariate	2867.820	1	2867.82	61.317	.000
Main Effects	144.889	2	72.445	1.549	.217
Program	143.660	1	143.660	3.072	.083
Gender	1.229	1	1.229	.026	.872
2-way interactions	1.048	1	1.048	.022	.881
Within	4864.096	104	46.770		
Total	7677.853	108	72.943		

The ANCOVA shows that on the Indecision Scale, the F score of 0.026 was not found to be significant at the .05 confidence level. Gender is not interacting with program to have an effect on career indecision on the post-test.

A two-way ANCOVA was completed to ascertain whether or not having completed a Career Education course along with program plays a role in career certainty. Table 4.14 identifies the mean results on post-test certainty scores by Career Education and program. Table 4.15 identifies the results on the post-test in which program and Career Education are the factors and the certainty score on the pre-test is the covariate.

Table 4.14

Mean Post-Test Scores by Career Education

Course on Certainty

PROGRAM	Mean (completed Career Education course)	Mean (No Career Education course)
Co-operative Education	5.93 (N=28)	5.77 (N=30)
Control Group	4.63 (N=32)	4.89 (N=18)

Table 4.15
Analysis of Covariance by Program and
Career Education Course on Certainty

SOURCE	SS	DF	MS	F	Sig of F
Covariate	77.378	1	77.378	34.051	0.00
Main Effects	11.723	2	5.862	2.580	.081
Program	11.552	1	11.552	5.084	.026
Career Education	.171	1	.171	.075	.784
2-way interactions	4.499	1	4.499	1.980	.162
Within	234.057	103	2.272		
Total	327.657	107	3.062		

The ANCOVA shows that on the Certainty Scale, the F score of 0.075 was not found to be significant at the .05 confidence interval. Completing a Career Education course did not interact with program to have an effect on career certainty in the post-test.

A two-way ANCOVA was completed to ascertain whether or not having completed a Career Education course along with program plays a role in career indecision. Table 4.16 identifies the mean results on post-test indecision scores by Career Education and program. Table 4.17 identifies the

results on the post-test in which program and Career Education are the factors and the indecision score on the pre-test is the covariate.

Table 4.16
Mean Post-Test Scores by Career Education
Course on Indecision

PROGRAM	Mean (completed Career Education course)	Mean (No Career Education course)
Co-operative Education	28.50 (N=28)	30.27 (N=30)
Control Group	32.24 (N=33)	33.61 (N=18)

Table 4.17
Analysis of Covariance by Program and Career
Education Course on Indecision

SOURCE	SS	DF	MS	F	Sig of F
Covariate	2867.820	1	2867.820	63.821	0.00
Main Effects	330.640	2	165.320	3.679	.029
Program	143.660	1	143.660	3.197	.077
Career Education	186.980	1	186.980	4.161	.044
2-way interactions	6.125	1	6.125	.136	.713
Within	4673.268	104	44.935		
Total	7877.853	108	72.943		

The ANCOVA shows that on the Indecision Scale, the F score of 4.161 was found to be significant ($P < .05$). Completing a Career Education course does affect career indecision in the post-test.

A two-way ANCOVA was completed to ascertain whether or not having seen a Guidance Counselor along with program plays a role in career certainty. Table 4.18 identifies the mean results of post-test certainty score: by having seen a Guidance Counselor and program. Table 4.19 identifies the results on the post-test in which program and having seen a Guidance Counselor are the factors and the certainty score on the pre-test is the covariate.

Table 4.18

Mean Post-Test Scores by Guidance Counselor on Certainty

PROGRAM	Mean (Saw Guidance Counselor)	Mean (Did not see Guidance Counselor)
Co-operative Education	6.00 (N=42)	5.44 (N=16)
Control Group	5.19 (N=21)	4.36 (N=28)

Table 4.19
Analysis of Covariance by Program and
Guidance Counselor on Certainty

SOURCE	SS	DF	MS	F	Sig of F
Covariate	78.487	1	78.487	35.005	0.00
Main Effects	20.356	2	10.178	4.539	.013
Program	12.053	1	12.053	5.376	.022
Guidance Counselor	8.302	1	8.302	3.703	.057
2-way interactions	.008	1	.008	.003	.953
Within	228.701	102	2.242		
Total	327.551	106	3.090		

The ANCOVA shows that on the Certainty Scale, the F score of 3.703 was not found to be significant at the .05 confidence interval. Seeing a Guidance Counselor for career information did not affect career certainty in the post-test. However, there is a possible trend toward being more certain after seeing a Guidance Counselor, even though it is not statistically significant.

A two-way ANCOVA was completed to ascertain whether or not having seen a Guidance Counselor along with program

played a role in career indecision. Table 4.20 identifies the mean results on post-test indecision scores by Guidance Counselor and program. Table 4.21 identifies the results on the post-test in which program and having seen a Guidance Counselor are the factors and the indecision score on the pre-test is the covariate.

Table 4.20
Mean Post-Test Scores by Guidance
Counselor on Indecision

PROGRAM	Mean (Saw Guidance Counselor)	Mean (Did not see Guidance Counselor)
Co-operative Education	29.55 (N=42)	29.06 (N=16)
Control Group	29.95 (N=21)	34.52 (N=29)

Table 4.21
Analysis of Covariance by Program and Guidance
Counselor on Indecision

SOURCE	SS	DF	MS	F	Sig of F
Covariate	2859.300	1	2859.30	64.57	0.00
Main Effects	274.636	2	137.318	3.101	.049
Program	127.150	1	127.150	2.871	.093
Guidance Counselor	147.486	1	147.486	3.331	.071
2-way interactions	117.638	1	117.638	2.657	.106
Within	4561.092	103	44.282		
Total	7812.667	107	73.016		

The ANCOVA shows that on the Indecision Scale, the F score of 3.331 was not found to be significant at the .05 confidence interval. Seeing a Guidance Counselor for career information did not significantly affect career indecision in the post-test. However, there is a possible trend toward being less indecisive after seeing a Guidance Counselor, even though it is not statistically significant.

A two-way ANCOVA was completed to ascertain whether or not having been involved in career related extra-curricular activities along with program plays a role in career

certainty. Table 4.22 identifies the mean results on post-test scores by extra-curricular activities and program. Table 4.23 identifies the results on the post-test in which program and having been involved in extra-curricular activities are the factors and the certainty score on the pre-test is the covariate.

Table 4.22
Mean Post-Test Scores by Extra-Curricular
Activities on Certainty

PROGRAM	Mean (Not involved in extra-curricular activities)	Mean (Involved in extra-curricular activities)
Co-operative Education	6.67 (N=9)	5.69 (N=49)
Control Group	4.50 (N=14)	4.81 (N=36)

Table 4.23

Analysis of Covariance by Program and Extra-Curricular
Activities on Certainty

SOURCE	SS	DF	MS	F	Sig of F
Covariate	77.378	1	77.378	34.477	0.00
Main Effects	18.594	2	9.297	4.142	.019
Program	11.552	1	11.552	5.147	.025
Extra Curricular	7.042	1	7.042	3.138	.079
2-way interactions	.518	1	.518	.231	.632
Within	231.167	103	2.244		
Total	327.657	107	3.062		

The ANCOVA shows that on the Certainty Scale, the F score of 3.138 was not found to be significant at the .05 confidence interval. Being involved in career related extra-curricular activities did not significantly affect career certainty in the post-test.

A two-way ANCOVA was completed to ascertain whether or not having been involved in various career related extra-curricular activities along with program plays a role in career indecision. Table 4.24 identifies the mean results on post-test indecision scores by extra-curricular

activities and program. Table 4.25 identifies the results on the post-test in which program and having been involved in extra-curricular activities are the factors and the certainty score on the pre-test is the covariate.

Table 4.24
Mean Post-Test Scores by Extra-Curricular
Activities on Indecision

PROGRAM	Mean (Not involved in extra-curricular activities)	Mean (Involved in extra-curricular activities)
Co-operative Education	28.33 (N=9)	29.61 (N=49)
Control Group	33.43 (N=14)	32.46 (N=37)

Table 4.25
Analysis of Covariance by Program and Extra-Curricular
Activities on Indecision

SOURCE	SS	DF	MS	F	Sig of F
Covariate	2867.820	1	2867.820	62.682	0.00
Main Effects	245.077	2	122.538	2.678	.073
Program	143.660	1	143.660	3.140	.079
Extra Curricular	101.417	1	101.417	2.217	.140
2-way interactions	6.736	1	6.736	.147	.702
Within	4758.220	104	45.752		
Total	7877.853	108	72.943		

The ANCOVA shows that on the Indecision Scale, the F score of 2.217 was not found to be significant at the .05 confidence interval. Being involved in career related extra-curricular activities did not significantly affect career indecision in the post-test.

A two-way ANCOVA was completed to ascertain whether or not having completed any career decision making tools along with program plays a role in career certainty. Career decision making tools include student run programs, either paper-and-pencil or computer-generated, that aim to help students decide on a career. Table 4.26 identifies the mean results on post-test certainty scores by career tools and program. Table 4.27 identifies the results on the post-test in which program and having completed any career decision making tools are the factors and the certainty score on the pre-test is the covariate.

Table 4.26

Mean Post-Test Scores by Career Tools on Certainty

PROGRAM	Mean (Did not complete any Career Tools)	Mean (Completed one or more Career Tool)
Co-operative Education	5.89 (N=19)	5.82 (N=39)
Control Group	4.29 (N=17)	4.94 (N=33)

Table 4.27

Analysis of Covariance by Program andCareer Tools on Certainty

SOURCE	SS	DF	MS	F	Sig of F
Covariate	77.378	1	77.378	33.432	0.00
Main Effects	11.863	2	5.932	2.563	.082
Program	11.552	1	11.552	4.991	.028
Career Tools	.311	1	.311	.134	.715
2-way interactions	.025	1	.025	.011	.917
Within	238.391	103	2.314		
Total	327.657	107	3.062		

The ANCOVA shows that on the Certainty Scale, the F score of 0.134 was not found to be significant at the .05

confidence interval. Completing one or more career decision making tools did not significantly affect career certainty in the post-test.

A two-way ANCOVA was completed to ascertain whether or not having completed any career decision making tools along with program plays a role in career indecision. Table 4.28 identifies the mean results on post-test indecision scores by career tools and program. Table 4.29 shows the results on the post-test in which program and having completed any career decision making tools are the factors and the certainty score on the pre-test is the covariate.

Table 4.28

Mean Post-Test Scores by Career Tools on Indecision

PROGRAM	Mean (Did not complete any Career Tools)	Mean (Completed one or more Career Tool)
Co-operative Education	29.79 (N=19)	29.23 (N=39)
Control Group	35.06 (N=17)	31.56 (N=34)

Table 4.29
Analysis of Covariance by Program and
Career Tools on Indecision

SOURCE	SS	DF	MS	F	Sig of F
Covariate	2867.820	1	2867.820	62.465	0.00
Main Effects	216.395	2	108.198	2.357	.100
Program	143.660	1	143.660	3.129	.080
Career Tools	72.735	1	72.735	1.584	.211
2-way interactions	18.905	1	18.905	.412	.522
Within	4774.733	104	45.911		
Total	7877.853	108	72.943		

The ANCOVA shows that on the Indecision Scale, the F score of 1.584 was not found to be significant at the .05 confidence interval. Completing one or more career decision making tools did not significantly affect career indecision in the post-test.

It is important to note that the significance levels for main effects for certainty are different for some tables. This was due to the fact that there was various information missing from some students in the post-test. The more missing information for a specific research question, the more differences found in post-test results.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Co-operative Education offers "a chance for students to warm up to and explore a career area in the "real" world of work" (King, 1982, p. 20). This statement is one echoed by researchers, teachers and students involved in Co-operative Education. The research involved in this study has shown that Co-operative Education 2220 in Newfoundland and Labrador appears to increase students' levels of career certainty and decrease levels of career indecision. This section includes a general overview of the specific research findings and will discuss implications for Co-operative Education in the future of Newfoundland and Labrador.

The initial findings, as analyzed using an ANOVA, showed that in the pre-test both groups, Co-operative Education and the control group, were similar on the indecision scale. That is, there were no significant differences on career indecision between the two groups on the pre-test. However, using an ANOVA, it was discovered that on the pre-test certainty scale, as measured by items one and two, there were significant differences between the

two groups. The Co-operative Education group was significantly more certain than the control group on the pre-test certainty scores.

When the means of the two groups were compared, both groups increased in their certainty level from the pre-test to the post-test. As well, the level of indecision for students in both groups decreased from the pre-test to the post-test. This means that students did become more certain and less undecided about a career choice from the beginning of the school year to the end of the school year. The study then looked at the various reasons for this change.

The researcher was then left with a number of important questions to answer. Why was one group more certain than the other in the pre-test? Were the differences in both groups levels of certainty and indecision random? Would students have become more certain and less decided no matter what was going on in each students' life? The following information will further expand on the reasons for these changes and explore whether the findings were random or due to other circumstances.

Why were the two groups different on career certainty in the pre-test? Although no direct information was gathered to explain this phenomenon, there are a couple of possibilities identified by the researcher. When looking at the Career Decision Scale responses to the open-ended question (item 19), one notices that the responses given by Co-operative Education students were generally different than those given by the control group. The Co-operative Education students seem to have an idea of a career path and may be using Co-operative Education as a vehicle to further discover career choices. Non Co-operative Education students do not seem to have the same ideas regarding a career choice. For example, the following responses were given by Co-operative Education students:

I am interested in a couple of careers. I am not confused. I'm just researching on different careers to see which one interests me the most.

I know what I want to do as my career. I know what to major in, but I need a bit more information on my career choice.

I know what I want to be and I know I have the abilities to do it.

I have decided on my future career and I have gotten the needed information on that career.

A non Co-operative Education student wrote:

I don't know what I want to do, I'd like to take a year off just so I could figure out what career I'd like to have, and then go back to school for a trade or something.

For a list of other, relevant comments see Appendix J.

It is possible that students enrolled in Co-operative Education have already given more thought about a career choice than the non Co-operative Education group. Co-operative Education could be a way of finding out if a particular career really is for them. Co-operative Education allows students the chance to see first hand what a career is really like. It is possible that these students have spent more time, previous to the Co-op experience, deciding on a career path and are, therefore, more certain

regarding their career choice at the beginning of the Co-operative Education experience.

Another possibility for the differences between the groups rests with the fact that the two groups were statistically different to begin with. As table 3.3 revealed, the Co-operative Education students, on average, were older than the control group and were also, on average, in a higher grade. In this case, these results may simply reveal the fact that students become more certain regarding a career as they get older and more mature.

The findings indicate that completing a Co-operative Education program appeared to affect career certainty. Students involved in this program were more likely to be certain about a career choice after the completion of Co-operative Education 2220 than those students who had not completed it. There was also a possible trend toward less career indecision, however, these results were not statistically significant.

The findings in this study may support King (1982) who wrote, "after completing Co-operative Education, students

are more knowledgeable about their options for education and careers" (p. 23). The Co-operative Education students involved in this research were better at career decision making than their non Co-operative Education counterparts.

Using an ANCOVA, analyses of covariance were completed to find out what factors played a role in the career decision making of all students involved in the study. The researcher used the Career Decision Scale to obtain information on two variables, career certainty and indecision. Other factors that could possibly have an effect on career decision making were included in the survey. Students provided responses on a separate questionnaire used to compile this data.

Among the factors used in the analysis, it was found that gender did not influence career decision variables. It was also found that being involved in career-related extra-curricular activities, and having completed one or more career decision making tools (eg. Choices) did not significantly affect career certainty or career indecision.

It was found that having completed a Career Education

course did not affect students' level of certainty, but it did affect students' level of indecision. Students who completed a Career Education course had less career indecision on the post-test.

It was found that seeing a Guidance Counselor for career information did not significantly affect career certainty or career indecision. However, there was a possible trend showing that seeing a Guidance Counselor increased career certainty and decreased career indecision, but not a statistically significant level.

Because some of these factors were seen to influence career decision making, it is important that more research be completed to assess the full impact of these factors. Students should be given every chance to make informed choices regarding a career path. If seeing a Guidance Counselor or completing a Career Education course helps students make career choices, then it is important that teachers, schools, school boards and the Department of Education know this. However, more research is necessary before any strong statement can be made on any of the extraneous variables discussed in this paper.

The information gathered on the effects of Co-operative Education on career decision making is important for a number of reasons. Students are faced with many decisions as they are preparing to leave school and face the "real world", not the least of which is the decision to make choices regarding a career path. Schools have the responsibility to ensure that students know their options and have an opportunity to explore these options. Co-operative Education appears to be a vehicle through which students can do this. The link between school and work becomes stronger through Co-op, allowing students to explore occupations and see what the world of work is all about.

The research and subsequent conclusions gleaned from this analysis is useful to any persons or parties involved with the future of Co-operative Education in Newfoundland and Labrador. Although the sample surveyed for this research was small, the results are informative. This statement holds true especially for rural Newfoundland, due to the fact that the majority of students involved in this research came from schools in rural Newfoundland. It is generally known and accepted that students in rural Newfoundland do not have the same experiences as do students

from urban centers. Students in rural Newfoundland are not exposed to the same amount and variety of experiences as their urban counterparts.

For students in rural Newfoundland, this research suggests that Co-operative Education may influence career decision making. As career decision making is an important aspect of the Newfoundland and Labrador high school curriculum, this particular course should be deemed as important. In the current economic climate, with high unemployment and a predominant feeling of hopelessness, any event which helps students decide on a career choice should be encouraged.

Co-operative Education teachers involved in this research indicated that they see Co-operative Education as valuable and would like to see the program continue. However, many of these teachers were also concerned about the lack of future funding. In response to the question on further plans for Co-operative Education, one teacher wrote "Hopefully the program will become an integral part of the school curriculum and will continue after funding has expired." Another wrote

"We plan to maintain the co-op program for as long as it is feasible. Currently we are operating without any funding and this may make offering the program more difficult especially in light of reduced teacher allocations."

Other teachers who completed the questionnaires indicated a preference for a plan to continue offering Co-operative Education in their schools, with some planning to expand the program, even without funding.

When Co-operative Education teachers were offered the opportunity to comment on this program, through the enclosed questionnaire, those who did so had only positive comments to relate. A sample of teacher views are as follows:

"We have found the Co-op program to be a valuable addition to our school program. Based on student interviews and formal feedback, the program has greatly benefitted participating students."

"I believe strongly that programs such as Co-op Education provide students an opportunity to explore various career options and to get a taste of reality, as it relates to the world of work."

King (1982) shares the positive view that Co-operative Education is an important component of a high school curriculum. This author is of the opinion that Co-operative Education, integrated as part of a curriculum-based career education program, is one effective vehicle for developing career related skills. He also states that "Co-operative education is one way to make secondary schools more effective in serving the career education needs of our students ... has the potential to enable them to make more realistic and satisfying career decisions" (p. 25). Another author, Parsons (1991) recommends that every high school student should complete co-op during the 11th and 12th grades. The researcher of this paper is of a similar opinion to both of these authors. Co-operative Education is a valuable course which helps students with their career decision making abilities. In conjunction with other career-related events, this course proves invaluable in the career decision making capabilities of Newfoundland students.

The research discussed in this paper (current literature and research findings) only begins to demonstrate the importance of Co-operative Education in Newfoundland and

Labrador. More research is necessary in a number of areas including extra curricular activities, Guidance Counselors role in career development, and the role of gender on career decision making. Also needed is a study comparing the effects of Co-operative Education in larger urban schools as compared to rural areas in Newfoundland and Labrador.

Through this study, it can be suggested that Co-operative Education is a valid and valuable component of the high school curriculum in Newfoundland and Labrador. However, the benefits of being involved in this program must be weighed against the cost of running such a program. This research has indicated that there may be positive effects on career decision making of students involved in this program, but the lack of funding available for Co-operative Education may at some point in the future prove detrimental to the Co-op program. Co-operative Education is an expensive program to run, yet it has been proven effective in its' effectiveness in preparing students for their future in terms of a career.

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APPENDIX A

APPENDIX A

CO-OPERATIVE EDUCATION 1100 COURSE OUTLINE



Government
of
Newfoundland
and
Labrador

Course Description

Co-operative Education 1100

Department of Education
Division of Program Development
Authorized by the Minister

CO-OPERATIVE EDUCATION 1100
COURSE DESCRIPTION

Department of Education
Division of Program Development
Authorized by the Minister
August, 1992

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TABLE OF CONTENTS

Introduction / 1

Statement of Purpose / 2

Curriculum Model and Statement of Principles / 4

Course Objectives / 5

Course Content / 7

Course Materials / 9

Instructional Strategies / 10

Evaluation / 11

Appendix A:

Co-operative Education 1120, 2220, 3220 Content and Evaluation

Appendix B:

Resource Materials

INTRODUCTION

What is Co-operative Education?

Co-operative Education is an experiential method of learning that formally integrates academic study and classroom theory with practical experience at a work site in the community. The program is based on a partnership between school and the community, and involves the participation of students, teachers, employers and employees. Co-operative Education provides students with the opportunity to enhance their in-school learning while developing a greater awareness and understanding of the world of work. It also provides the time to explore a number of occupational areas and to develop skills, knowledge and attitudes needed to become productive and satisfied members of society.

A Co-operative Education Program consists of:

(a) **Co-operative Education 1100**

This is a prerequisite course with two major components -- Pre-employment Module and Integration Sessions.

(b) **Co-operative Education 1120, 2220, 3220**

These courses are to be locally developed as per Department of Education guidelines and will be based on community availability of work sites as well as students' needs and interests. (See appendix A)

There are two basic types of Co-operative Education programs from which a student may obtain credit.

1. Career Exploratory Co-operative Education

A Career Exploratory Co-operative Education Program is designed to enable students, by working alongside experienced employees in a specific work environment, to explore occupations which are of interest to them. For example, a student who thinks he/she may be interested in retail sales, automotive technology, or veterinary science would be placed at an appropriate job site to investigate the occupation in greater detail, to obtain "hands on" experience and to gain insights into this field of study.

Choosing a career direction is among the most important decisions a young person ever has to make. The satisfaction that a person receives from his/her work has a tremendous impact on his/her overall quality of life. It is imperative that every consideration be taken into account when deciding upon one's career path. A Career Exploratory Co-op is an educationally relevant approach to helping students make the most appropriate decisions relating to their future education and career plans.

2. Subject Based Co-operative Education

A Subject Based Co-operative Education Program is designed to enable students to further enhance their in-school learning in a specific subject through practical application in real life situations. Students may or may not have a career interest in mind but must see educational value in the opportunity to explore a particular area of interest and to gain further knowledge, experience and training in a variety of skills that apply to the content learned in a specific school subject.

A Co-operative Education component may be developed for any subject in the high school curriculum. This component may be linked to a course in which a participating student is currently enrolled for credit or has completed the credit for that course in the previous year. The following are some examples of subject based co-op programs: Science Co-op, Business Co-op, Art Co-op, Family Studies Co-op, French Co-op, Geography Co-op, Music Co-op, Physical Education Co-op, English Co-op, Computer Studies Co-op, Law Co-op, etc.

COURSE OBJECTIVES

This course is an introduction to Co-operative Education for students following either a subject based or career exploratory program. This course is designed to facilitate the students' adjustment to an unfamiliar learning environment. For some students, their Co-operative Education program will be providing them with their first "hands-on" exposure to the realities of the work world. It is imperative that these students be as prepared as possible in order to smooth their transition into their training site and that the challenges resulting from this new learning environment are met with confidence.

Course Objectives

1. Through self-evaluation checklist and other activities be able to identify personal values, possible limitations, areas of interest and aptitudes.
2. To recognize individual beliefs regarding employment and to discover reasons for working.
3. To become aware of the needs met by working and the factors contributing to worker satisfaction.
4. To understand and effectively use the decision making process.
5. To be able to complete an application form to an acceptable business standard.
6. To examine various resume formats and produce a copy of one's own resume.
7. To understand the job interview process and demonstrate the skills necessary to conduct a good interview.
8. To become familiar with the routines, the job and co-workers at the work site.
9. To identify employer expectations of the employee.
10. To become familiar with the responsibilities of the student, employer and teacher/monitor as they relate to the Co-op program.
11. To be aware of the importance of ethical behaviour and adherence to confidentiality in the work place.
12. To develop an understanding of the need for safety, as well as the responsibilities and the rights of employer/supervisor and employee with regards to a safe working environment.
13. To become familiar with the standard safety practices necessary in the work place.
14. To apply knowledge of safety practices to as actual work situation.

COURSE CONTENT

Part I: Pre-Employment Module

1. Self-Assessment

self-evaluation checklist, self-inventory of work values, work preferences, identifying your values, self-inventory/work behaviours and personal traits, self-inventory/possible limitations, self-assessment summary worksheet, student interest inventory, research project.

2. World of Work

what work means to me, why work, definitions, why do people work, personal needs met by work, factors contributing to worker satisfaction, decision-making.

3. Job Search Techniques

application forms, resume, covering letter, the job interview.

4. Training Site Orientation

job orientation, co-operative education placement responsibilities, ethics and confidentiality.

5. Occupational Health and Safety

work place health and safety responsibilities, healthy and safe working practices, co-operative education health and safety quiz, health and safety assignment.

6. Unions and the Labour Movement

how unions work, labour terminology, training site interview/unions.

7. Legislation in Newfoundland and Labrador

labour standards act, occupational health and safety, workers' compensation, human rights code, 1988, unemployment insurance.

Part II: Integration Sessions (Career Exploratory)

Integration sessions provide students and teachers with an opportunity to reinforce skills and techniques learned at the work site. Teachers conducting a Career Exploratory Co-op Program are provided with a resource binder entitled, *Integration: Experiential Learning for Co-operative Education Students*, to be utilized during these sessions. Topics covered are:

1. Sharing experiences
2. Developing Interpersonal skills

COURSE MATERIALS

Authorized Resources

Student Resources (subject-based)

one of the following:

Transitions/A Practical Guide to the Workplace (and teacher reference)
Working Today & Tomorrow (and teacher reference)
Discover the Career Within

Student Resources (career exploratory)

one of the following:

Transitions/A Practical Guide to the Workplace (and teacher reference)
Success in the Workplace (and teacher reference)
Working Today & Tomorrow (and teacher reference)

Recommended Resources

Independent Learning Programs for Co-operative Education Students
What Colour is Your Parachute? (annual edition)
Forms in Your Life
You're Hired/Job Strategies for the 90's
Language at Work
Training Plan Disk (Simcoe County Board of Education)

Student Resources

Forms in Your Life
You're Hired/Job Strategies for the 90's
Language at Work
The Co-op Journal

EVALUATION

The two components of Co-operative Education 1100, The Pre-Employment Module and the Integration Sessions constitute one academic credit. The evaluation plan should include the following:

1. Pre-Employment Module

(a) Unit Tests

Mini tests will be administered to students at the completion of each unit. These mini tests may be written or orally administered.

(b) Projects

Projects related to various topics found in the Pre-Employment Module will be completed by the students.

(c) Assignments

Students will be required to do written assignments related to the various units of the Module.

(d) Class Discussion/Participation

2. Integration Sessions

(a) Class Discussion/Participation

Students are expected to participate in various class discussions.

(b) Assignments

Students will be required to do written and oral assignments that relate to their work site experiences.

CO-OPERATIVE EDUCATION 1120, 2220, 3220 CONTENT AND EVALUATION

These three courses are field courses, that is they represent the type and number of credit(s) a student receives for the community-based component of his/her cooperative education program. The content and objectives for these courses have to be locally developed in accordance with policies and procedures as per the *Co-operative Education Policies and Procedures Handbook*.

The teacher monitor and the employer supervisor work together to meet the objectives of the training plan and provide an optimum learning environment for the student in the work place. Both, therefore, contribute to overseeing student performance, the evaluation of results, and the decision-making based on the evaluation. The final mark for the out-of-school component will be the responsibility of the teacher/monitor.

Co-operative Education 1120 (Community-Based Learning)

This course enables the student to obtain community-based learning under the supervision of an employer and a teacher monitor. Individual training plans must be developed (locally) based on student interests and abilities and will be linked to in-school curriculum objectives. These curriculum objectives may be career exploratory in nature or related to a specific subject.

This course can be done concurrently with the prerequisite course, Co-operative Education 1100.

Please Note: If any of the Community-Based Learning Courses (Co-operative Education 1120, 2220, 3220,) are completed on its own, then adequate time (approximately 20%) must be allocated for the inclusion of in-school integration activities.

Co-operative Education 2220 (Community-Based Learning)

This course enables the student to obtain community-based learning under the supervision of an employer and a teacher monitor. Individual training plans will be developed (locally) based on student interests and abilities and will be linked to in-school curriculum objectives. These curriculum objectives may be career exploratory in nature or related to a specific subject.

RESOURCE MATERIALS FOR CO-OPERATIVE EDUCATION

1. *Transitions - A Practical Guide to the Workplace* by Linda Winder, Sonja Stih, Jim O'Connor

Maxwell MacMillan Canada
1200 Eglinton Avenue East,
Suite 200
Don Mills, Ontario
M3C 3N1
Phone #: (416) 449-6030
Fax #: (416) 449-0068

2. *Working Today and Tomorrow (Canada Edition)* by Richard Campbell, Mary J. Thompson, Marilyn W. Dyck

Irwin Publishing
1800 Steeles Ave., West
Concord, Ontario
L4K 2P3
Phone #: (416) 660-0611
Fax #: (416) 660-0676

3. *Success in the Workplace - A Student Guide* by, Margaret Brand, Ann Olney Sparkes

Copp Clark Pittman Ltd.
2775 Matheson Blvd., East
Mississauga, Ontario
L4W 4P7
Phone #: (416) 238-6074
Fax: (416) 238-6075

4. *Your're Hired - Job Search Skills for the 90's* by George Kent

Copp Clarke Pitman Ltd.
2775 Matheson Blvd., East
Mississauga, Ontario
L4W 4P7
Phone #: (416) 238-6074
Fax: (416) 238-6075

9. *Discover the Career Within*

Clark G. Carney/Andrea Field Wells
Burkes-Cole Publishing Company
511 Forest Lodge Road
Specific Grove, Colorado
U.S. 93950-9968

10. *What Colour is Your Parachute*

Clark G. Carney/Andrea Field Wells
P.O. Box 379
Wildnut Creek
Colorado 94597

11. *Making Decisions*

J. Michale Farr and Susan Christopherson
Jist Word Inc.
720 North Park Avenue
Indianapolis, IN
46202-3431
U.S.A.

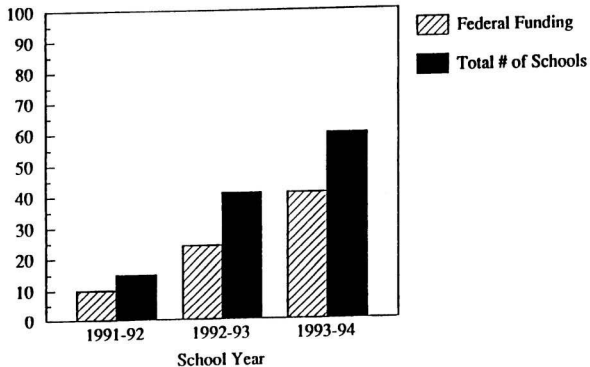
APPENDIX B

APPENDIX B

CO-OPERATIVE EDUCATION INFORMATION PACKAGE

Growth of Co-operative Education in Newfoundland and Labrador

Number of Schools



Co-operative Education Provincial Statistics

1993-94

- **Approximately 1/3 of Newfoundland & Labrador High Schools Offer Co-operative Education Programs**
- **1,200 Students Participate in Co-operative Education Programs**
- **To Date Federal Government Has Committed \$9.2 Million Dollars In Funding Co-op Programs In This Province.**

Types of Subject-Based Co-operative Education Programs In Newfoundland & Labrador

Law Co-op

English Co-op

Family Studies Co-op

Science Co-op - Biology/Chemistry/Physics

Physical Education Co-op

Computer Studies Co-op

Business Co-op

Enterprise Co-op

Math/Science Mentorship Co-op

CO-OPERATIVE EDUCATION

PRE-EMPLOYMENT MODULE

INTRODUCTION

UNIT 1 SELF-ASSESSMENT

UNIT 2 WORLD OF WORK

UNIT 3 JOB SEARCH TECHNIQUES

UNIT 4 TRAINING SITE ORIENTATION

UNIT 5 SAFETY ON THE JOB

**UNIT 6 UNIONS AND THE LABOUR
MOVEMENT**

**UNIT 7 LEGISLATION IN NFLD &
LABRADOR**

Variety of Co-op Programs

1. Co-op Across the Curriculum
2. World of Work-Career Exploration
3. Visually Impaired
4. Nuclear Power Plant
5. Store Front Marketing
6. College Integration
7. Operation Employability
8. Adult
9. Gifted
10. Apprenticeship Program
11. Entrepreneurial

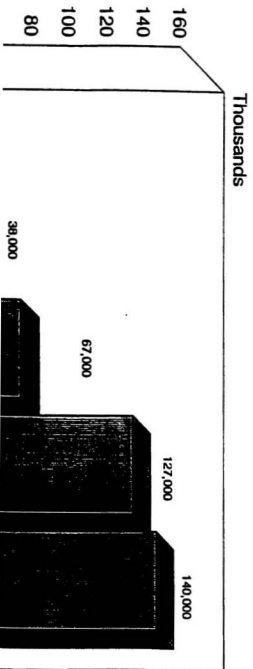
CO-OP STATS

- There has been major growth in the number of secondary school students participating in Co-op since 1988 from 67,000 to 140,000 in five years.
- More than 34 million hours of Co-operative Education and skills training were provided to students in 1992.
- More than 200,000 employer supervisors, business people, and business groups across Canada are active and enthusiastic exponents of Co-op - more and more they support Co-op as an investment in their future.
- To date the federal government has invested \$75,329,000 in funding Co-op programs at both the secondary and post-secondary levels. (July 1988-March 1993)
- 91 per cent of the public recognize and support Co-operative Education according to the findings of a recent Decima survey*.
- 90 per cent of student participants in Co-operative Education were so satisfied by their involvement that they would participate again, according to a research study **.

*Public Affairs Trends, Quarterly Report, Fall, 1991, Decima Research

**Crysdale, Stewart, Toward a Resilient, Productive Generation, Unpublished Study, York University, 1991.

GROWTH OF SECONDARY CO-OP



WHO SUPPORTS CO-OPERATIVE EDUCATION?

CANADIAN LABOUR MARKET AND PRODUCTIVITY CENTRE - Report of the CLMPC Task Force, 1990

Recommendation #10

"That all educational institutions seriously explore the possibility of establishing Co-op programs--with or without federal seed money--and that a major effort be made at the secondary school level to make Co-op programs a focal point for improved career counselling, particularly for the large majority of secondary school learners who are not bound for further education at the post-secondary level."

THE CONFERENCE BOARD OF CANADA, NATIONAL BUSINESS & EDUCATION CENTRE

"As one of the most important methods of implementing experiential learning, Co-op represents a major strategy for improving education for young people and ensuring that they obtain the education and employability skills required in the workforce of the '90s and beyond."

CANADIAN LABOUR CONGRESS

"The trade union movement has recognized that Co-operative Education is a preferred method of learning that produces positive benefits for both the learner, the community, the employer and the union." - Daniel Mallet, CLC Education Services, 1991.

ECONOMIC COUNCIL OF CANADA

"The positive contribution of Co-operative Education should be encouraged through an expansion in the number of students and in the range of programs. To that end, provincial education authorities should set targets for Co-operative programs, giving school boards incentives to seek out the best practice from across Canada and to work with employers and unions to put Co-operative Education programs in place at the secondary level. "A Lot To Learn-Education and Training in Canada." 1992.p.52

ONTARIO MINISTRY OF EDUCATION

"Of all the creative mechanisms that have been developed to stimulate partnerships between the school and the local community, Co-operative Education has been by far the most successful. In the past five years the student participation rate has increased more than 300%" Minister of Education, 1991.

GETTING STARTED IN THE SCHOOL

Prior To Beginning Co-op Program

1. Meet with students and distribute application forms.
2. Prospective students are interviewed by guidance counsellors and co-op teacher.
3. Student selection is completed and students are notified.

WHEN PROGRAM BEGINS

4. Pre-Employment Module (Co-op 1100) is introduced during first 3-4 weeks of program in the school.
5. Students are interviewed by employer.
6. Parents, employers, teacher and student sign **Work Agreement Form**. (This outlines the hours, days, etc. at placement).

APPENDIX C

SCHOOLS SELECTED FOR SURVEY

SCHOOLS INVOLVED IN SURVEY

EXPLANATIONS (WHEN KNOWN) OF WHY REMAINING

SCHOOLS DID NOT PARTICIPATE

LIST OF SCHOOLS SELECTED FOR THE SURVEY

Booth Memorial High School, St. John's
Mount Pearl Senior High, Mt. Pearl
Saint Georges Regional High, New Harbour
Whitbourne Central High, Whitbourne
John Loveless All Grade, Seal Cove
John Burke High School, Grand Bank
Queen Elizabeth Regional High, Manuala
Leo Burke Academy, Bishop's Falls
Botwood Collegiate, Botwood
Henry Gordon Academy, Cartwright, Labrador
Lewisporte Regional High, Lewisporte
Gander Collegiate, Gander
G. Shaw Collegiate, Chapel Island
Roncolli Central High, Avondale
Saint Francis Central High, Harbour Grace

SCHOOLS INVOLVED IN THE SURVEY

Botwood Collegiate, Botwood

G. Shaw Collegiate, Chapel Island

Gander Collegiate, Gander

Leo Burke Academy, Bishop's Falls

Lewisporte Regional High, Lewisporte

EXPLANATIONS (WHEN KNOWN) OF WHY REMAINING
SCHOOLS DID NOT PARTICIPATE

Booth Memorial High School, St. John's

The Superintendent agreed to the distribution of the surveys and a verbal agreement was given from the principal, but the surveys were not returned to the examiner.

Mount Pearl Senior High, Mt. Pearl

The Superintendent agreed to the distribution of the surveys and a verbal agreement was given from the principal and the Co-operative Education Teacher, but the surveys were not returned to the examiner.

Saint Georges Regional High, New Harbour

This school is no longer doing Co-operative Education.

Whitbourne Central High, Whitbourne

There was no comparable class in the school to serve as a control group. There were only 13 students in one grade and they were all involved in Co-operative Education.

John Loveless All Grade, Seal Cove

This school has been changed to a Primary/Elementary School and therefore is no longer involved in Co-operative Education.

John Burke High School, Grand Bank

No contact was made with this school.

Queen Elizabeth Regional High, Miramichi

This school is no longer doing Co-operative Education.

Henry Gordon Academy, Cartwright, Labrador

This school completed and returned the pre-test surveys, but did not return the post-test surveys. No contact could be made to find out the reason for this.

Roncolli Central High, Avondale

This school returned the pre-test surveys for the Co-operative Education only, and did not return any post-test surveys. No contact could be made to find out the reason for this.

Saint Francis Central High, Harbour Grace

This school is no longer doing Co-operative Education.

APPENDIX D

CO-OPERATIVE EDUCATION, CAREER EXPLORATION VISIT
AND WORK EXPERIENCE WEEKS: AN EVALUATION

CO-OPERATIVE EDUCATION PROGRAM

Student Questionnaire

This survey is to find out what you and other students think about the Co-operative Education Program. You do not have to sign your name to this questionnaire. The answers will be used to find out how good the program is and to determine how to improve it.

School: _____			
Date of Birth:	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	<div style="display: inline-block; border: 1px solid black; padding: 2px;">1</div> <div style="display: inline-block; border: 1px solid black; padding: 2px;">9</div> <div style="display: inline-block; border: 1px solid black; width: 30px; height: 20px;"></div> <div style="display: inline-block; border: 1px solid black; width: 30px; height: 20px;"></div>
	day	month	year
Sex:			
Male	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>	Female	<div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div>

Please answer these questions with a check mark (✓) in the box next to the answer you choose. For a few questions, you are asked to write short answers in the blank space provided.

IT IS IMPORTANT THAT YOU ANSWER ALL QUESTIONS

Don't Write
in this space

- | | | | |
|--|-----------------|--|---|
| 1. What business courses are you taking? | Accounting | <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> | 1 |
| | Data Processing | <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> | 2 |
| | Secretarial | <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> | 3 |
| | Marketing | <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> | 4 |
| | Other | <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> | 5 |

(20)

If "Other" please specify _____

(21)

2. Provide details of your Co-operative Education program:

Dates: From _____ to _____

(23-24) ☐

Name of Company or Organization _____

(25-26) ☐

Job Title (name of job) _____

(27-28) ☐

Duties (please be specific about the duties you performed) _____

(29-30) ☐

3. Was it worthwhile to take time off school to spend on the Co-operative program?

Very worthwhile	<input type="checkbox"/>	1	
Somewhat worthwhile	<input type="checkbox"/>	2	
Not very worthwhile	<input type="checkbox"/>	3	
A waste of time	<input type="checkbox"/>	4	(32)

4. Was your work experience related to the subjects you are majoring in?

Yes, very much related	<input type="checkbox"/>	1	
Somewhat related	<input type="checkbox"/>	2	
No, not related at all	<input type="checkbox"/>	3	(33)

5. During your work experience, did you find that there were skills or knowledge which you needed but which you had not learned?

Yes	<input type="checkbox"/>	1	
No	<input type="checkbox"/>	2	(34)

If "Yes," what were they? _____

(35)

6. As a result of your work experience, did you find some activities that are less interesting than you thought they would be?

Yes	<input type="checkbox"/>	1	
No	<input type="checkbox"/>	2	(36)

If "Yes," name these _____

(37)

7. Have you ever had a part-time, full-time or summer job?

No, I have had no job experience before	<input type="checkbox"/>	1	
Yes, but it was very different from my work experience	<input type="checkbox"/>	2	
Yes, and it was like my work experience	<input type="checkbox"/>	3	(38)

(Please name this job) _____

If you answered "NO," go to Question #9.

8. Since you have had experiences working, do you think your co-operative work experience gave you any further help?

Yes	<input type="checkbox"/>	1	
No	<input type="checkbox"/>	2	(39)

If "Yes," what kind of help? _____

(40--

9. What did you like the best about your work experience? _____

(41--

10. What did you like the least about your work experience? _____

(42--

Did the Co-operative Work Experience create any problems for you?

Yes ☐ 1

No ☐ 2

If yes, please specify _____

(46)

(47-48) ☐

Given below are statements about the Co-operative Work Experience Program. Please circle the number which shows whether you agree or disagree with each statement.

Circle 1 if you strongly disagree.

Circle 2 if you disagree.

Circle 3 if you are uncertain.

Circle 4 if you agree.

Circle 5 if you strongly agree.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	
(a) The activities available in the work experience program have been interesting to me.	1	2	3	4	5	(50)
(b) The work experience gave me contacts for future jobs.	1	2	3	4	5	(51)
(c) I have had the chance to find out more about my strengths and weaknesses.	1	2	3	4	5	(52)
(d) The work experience taught me to get along better with other people.	1	2	3	4	5	(53)
(e) The choice of what work I will do when I finish school is much clearer in my mind.	1	2	3	4	5	(54)
(f) I now have a clearer picture of what really goes on in an office/shop/business.	1	2	3	4	5	(55)
(g) Through the work experience program, I learned a lot about future job opportunities.	1	2	3	4	5	(56)
(h) During the work experience program, I was able to use what I learned in school.	1	2	3	4	5	(57)

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	
12. (i) I was treated as one of the regular workers.	1	2	3	4	5	(59)
(j) I would recommend work experience to other students.	1	2	3	4	5	(59)
(k) When I leave school, I want to do the same kind of work that I did on work experience.	1	2	3	4	5	(60)
(l) Nearly every day I learned something new about the world of work.	1	2	3	4	5	(61)
(m) I was well briefed on details (e.g., lunch, dress, transportation) for the work experience.	1	2	3	4	5	(62)
(n) I understood the purpose of my work experience before I went.	1	2	3	4	5	(63)

THANK YOU FOR YOUR HELP IN COMPLETING THIS QUESTIONNAIRE

Please add any other comments about the Co-operative Work Experience Program (e.g., suggestions for improvements, etc.).

CO-OPERATIVE EDUCATION PROGRAM

Student Questionnaire

This survey is to find out what you and other students think about the Co-operative Education Program. You do not have to sign your name to this questionnaire. The answers will be used to find out how good the program is and to determine how to improve it.

(Number of students interviewed - 19)

School:	4 - Bickford Park	7 - Eastern Commerce
	2 - Castle Frank	1 - Heydon Park
		5 - Western Technical

TOTAL - 19

Sex:

Male	- 0%
Female	- 100%

Please answer these questions with a check mark (✓) in the box next to the answer you choose. For a few questions, you are asked to write short answers in the blank space provided.

IT IS IMPORTANT THAT YOU ANSWER ALL QUESTIONS

- What business courses are you taking?

Accounting	15.8%
Data Processing	0.0%
Secretarial	63.2%
Marketing	0.0%
Other	21.0%
- Provide details of your Co-operative Education program:

(Number of weeks the students worked)

73.7% - 32 weeks
26.3% - 16 - 20 weeks

Duties

89.5% - Worked on a variety of tasks
10.5% - Worked on mainly one task

3. Was it worthwhile to take time off school to spend on the Co-operative program?

<i>Very worthwhile</i>	89.5%
<i>Somewhat worthwhile</i>	5.3%
<i>Not very worthwhile</i>	5.3%
<i>A waste of time</i>	0%

4. Was your work experience related to the subjects you are majoring in?

<i>Yes, very much related</i>	42.1%
<i>Somewhat related</i>	57.9%
<i>No, not related at all</i>	0%

5. During your work experience, did you find that there were skills or knowledge which you needed but which you had not learned?

<i>Yes</i>	47.4%
<i>No</i>	52.6%

If "yes," what were they?

15.8%^{*} - Dictaphone

42.1% - Other skills listed by two or fewer students
[e.g., receptionist's duties, letter setting, dicta typing,
applied accounting, exposure to computer terminal, personal
communication and discipline]

6. As a result of your work experience, did you find some activities that are less interesting than you thought they would be?

<i>Yes</i>	26.3%
<i>No</i>	73.7%

If "yes," name these:

26.3% - Photocopying, filing, stamping and labelling envelopes, and checking income tax forms.

^{*} Because some students listed more than one skill, this column does not add up to 47.4%.

7. Have you ever had a part-time, full-time or summer job?

No, I have had no job experience before 5.3%

Yes, but it was very different from my work experience 73.7%

Yes, and it was like my work experience 21.0%

(If you answered "No", go to Question #9).

8. Since you have had experiences working, do you think your co-operative work experience gave you any further help? (Based on 18 respondents)

Yes 94.4%

No 5.6%

If "yes," what kind of help?

94.4% - There were a lot of new activities/activities were more related to school subjects/more work experience.

9. What did you like the best about your work experience?

63.1%* - Personal development: opportunity to work/interact with other employees, learn responsibility and self discipline, sense of importance

36.8% - Liked all activities

21.0% - Specific skill mentioned by two or fewer students (e.g., receptionist duties, accounting, etc.)

10. What did you like the least about your work experience?

68.4% - None/liked everything

10.5% - Other employees were unfriendly

10.5% - Given only unimportant jobs to do

5.3% - Could not take some school courses because of the program

5.3% - Not allowed to smoke

11. Did the Co-operative Work Experience create any problems for you?

Yes 26.3%

No 73.7%

If "Yes," please specify

21.0% - Timetable does not match the participating students' needs - could not take the courses wanted to take.

5.3% - Program makes life too busy - can't participate fully in social life.

* This column does not add up to 100% since some students mentioned more than one thing.

12. Given below are statements about the Co-operative Work Experience Program. Please circle the number which shows whether you agree or disagree with each statement.

Circle 1 if you strongly disagree.

Circle 2 if you disagree.

Circle 3 if you are uncertain.

Circle 4 if you agree.

Circle 5 if you strongly agree.

	Strongly Disagree (1)	Disagree (2)	Uncertain (3)	Agree (4)	Strongly Agree (5)	Mean
(a) The activities available in the work experience program have been interesting to me.	0%	5.3%	5.3%	36.8%	52.6%	4.4
(b) The work experience gave me contacts for future jobs.	0%	5.3%	10.5%	21.0%	63.1%	4.4
(c) I have had the chance to find out more about my strengths and weaknesses.	0%	0%	5.3%	52.6%	42.1%	4.4
(d) The work experience taught me to get along better with other people.	0%	0%	21.0%	42.1%	36.8%	4.2
(e) The choice of what work I will do when I finish school is much clearer in my mind.	0%	5.3%	26.3%	26.3%	42.1%	4.0
(f) I now have a clearer picture of what really goes on in an office/shop/business.	0%	0%	0%	26.3%	73.7%	4.7
(g) Through the work experience program, I learned a lot about future job opportunities.	0%	5.3%	15.8%	57.9%	21.0%	3.9
(h) During the work experience program, I was able to use what I learned in school.	0%	0%	0%	73.7%	26.3%	4.3
(i) I was treated as one of the regular workers.	0%	0%	5.3%	36.8%	57.9%	4.5
(j) I would recommend work experience to other students.	0%	0%	5.3%	15.8%	78.9%	4.7

12. (Continued)

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Uncertain</i>	<i>Agree</i>	<i>Strongly Agree</i>	<i>Mean</i>
(k) When I leave school, I want to do the same kind of work that I did on work experience.	10.5%	0%	31.6%	21.0%	36.8%	3.7
(l) Nearly everyday I learned something new about the world of work.	0%	15.8%	10.5%	63.1%	10.5%	3.7
(m) I was well briefed on details (e.g., lunch, dress, transportation) for the work experience.	0%	5.3%	5.3%	52.6%	36.8%	4.1
(n) I understood the purpose of my work experience before I went.	0%	5.3%	10.5%	36.8%	47.4%	4.3

THANK YOU FOR YOUR HELP IN COMPLETING THIS QUESTIONNAIRE

Please add any other comments about the Co-operative Work Experience Program (e.g., suggestions for improvements, etc.).

31.6%* - School timetable should meet the co-operative education students needs/students should be given courses they choose.

31.6% - No comment.

15.8% - Student should be given a variety of work.

15.8% - Teacher should monitor the program on a continuous basis/teacher should give feedback to the student.

10.2% - Job should be matched to the student's interests.

* This column does not add up to 100% since some students added more than one comment.

APPENDIX E

STUDENT COVER SHEET

Dear Student:

Please complete the following questions before completing the attached questionnaire.

Date: _____

Name: _____

Age: _____

Grade: _____

Gender: Male: _____

Female: _____

Name of School: _____

Is there a Guidance Counsellor in your school?

Yes _____

No _____

Have you seen the Guidance Counsellor for help with Career Plans?

Yes _____

No _____

Extra-curricular activities in which you participate (please check all that you are or have been involved in):

Junior Achievement _____

Job Shadowing _____

W.O.W. Program _____

Engage Program _____

Career Day _____

Visit to Canada _____

Employment Centre _____

Part-time job _____

Other (please specify) _____

Have you ever completed a Career Education Course?

Yes _____

No _____

If yes, when? _____

Have you ever used any of the following Career Decision Making tools?

Choices _____

Canadian Occupational
Interest Inventory _____

Self-Directed Search _____

Safran Students
Interest Inventory _____

Other (please specify) _____

What is your reason for taking Co-operative Education?

APPENDIX F

LETTERS OF CONSENT

SUPERINTENDENT

PRINCIPAL

CO-OPERATIVE EDUCATION TEACHER

STUDENT

PARENT/GUARDIAN

LETTER OF SUPPORT

CO-OPERATIVE EDUCATION TEACHER QUESTIONNAIRE

Trina Thorne
165A Main St.
Bishop's Falls, NF
A0H 1C0
(709) 258-6088

Dear Superintendent:

I am a graduate student at Memorial University. With your permission, I will be sending questionnaires to a number of Co-operative Education students and an equal number of non-Co-operative education students in your district in early September, 1996 and again in June, 1997. The reason behind these questionnaires is to investigate career decidedness in students before and after Co-operative Education. The data collected will be used within my Masters Thesis.

Each student's participation will consist of them completing "The Career Decision Scale" in both September, 1996 and June, 1997. The scale is easy and quick to complete. The scale will take approximately 10-15 minutes to complete and can be administered in a group setting (i.e. during a Co-operative Education class).

All information gathered in this study is strictly confidential and at no time will individuals be identified. I am interested in finding out if Co-operative Education helps High School students in their career decision making process. Participation is voluntary, and each student may withdraw at any time. Students are free to refrain from answering any questions they wish to omit. This study has received the approval of the Faculty of Education's Ethics Review Committee. The results of my research will be available to you upon request.

If you are in agreement with having some of your students participate in this study please sign below and return one copy to me. The other copy is for you. If you have any questions or concerns please do not hesitate to contact me at 258-6088 or 256-3866. You may also contact my thesis supervisor, Dr. G. Hache at 737-7630. If at any time you wish to speak with a resource person not associated with the study, please contact Dr. Patricia Canning, Associate Dean, Graduate Programmes and Research.

I am including a sample parental consent form for your perusal. If you or the Principal of the participating schools feel it is necessary to have parental consent before allowing your students to take part in this study, the form can be duplicated by the school.

I would appreciate if you would please return this sheet to me by June 30, 1996.

Thank you for your consideration of this request.

Yours Sincerely,

Trina Thorne

PERMISSION FORM

I _____ (Superintendent) of _____

_____ School Board hereby give permission for a number of students in this district to take part in a study on Co-operative Education being undertaken by Trina Thorne. I understand that participation is entirely voluntary and that any student may withdraw at any time. All information is strictly confidential and no individual will be identified.

Date _____

Signature _____

Trina Thorne
11 Towers Ave.
Gander, NF
A1V 2L9
(709) 256-3866

Dear Principal:

I am a graduate student at Memorial University. With your approval I will be sending questionnaires to a number of Co-operative Education students and an equal number of non Co-operative Education students in your school in early September, 1996 and again in June, 1997. The reason behind these questionnaires is to investigate career decidedness in students before and after Co-operative Education. The data collected will be used within my Masters Thesis.

Each student's participation will consist of them completing "The Career Decision Scale" in both September, 1996 and June, 1997. The scale is easy and quick to complete. The scale will take approximately 10-15 minutes to complete and can be administered in a group setting (i.e. during a Co-operative Education class).

All information gathered in this study is strictly confidential and at no time will individuals be identified. I am interested in finding out if Co-operative Education helps High School students in their career decision making process. Participation is voluntary, and each student may withdraw at any time. Students are free to refrain from answering any questions they wish to omit. This study has received the approval of the Faculty of Education's Ethics Review Committee and the Superintendent of your School Board. The results of my research will be available to you upon request.

If you and the Co-operative Education teacher(s) are in agreement with having some of your students participate in this study please sign the attached permission forms and return one copy to me. The other copy is for you. If you have any questions or concerns please do not hesitate to contact me at 256-3866. You may also contact my thesis supervisor, Dr. G. Hache at 737-7630. If at any time you wish to speak with a resource person not associated with the study, please contact

Dr. Patricia Canning, Associate Dean, Graduate Programmes and Research.

I am including a sample parent/guardian consent form as well as a student consent form for you to duplicate if you feel it is necessary to have parental and/or student consent before allowing students to take part in this study. I have also included a letter of support for my research from Mr. W. Boone as well as a sample copy of the student questionnaire for your perusal.

I would appreciate if you would please return this sheet to me by September 10, 1996 as I need to get the questionnaires to students before they begin working in the field.

Thank you for your consideration of this request.

Yours Sincerely,

Trina Thorne

PERMISSION FORM

I _____ (Principal) of _____
(name of school) hereby give permission for a number of my students to take part in a study on Co-operative Education being undertaken by Trina Thorne. I understand that participation is entirely voluntary and that any student may withdraw at any time. All information is strictly confidential and no individual will be identified.

Date _____

Signature _____

Please indicate the number of students from your school who will be participating in Co-operative Education this school year: _____

Trina Thorne
11 Towers Ave.
Gander, NF
A1V 2L9
(709) 256-3866

Dear Co-operative Education Teacher:

I am a graduate student at Memorial University. With your permission I will be sending questionnaires to a number of Co-operative Education students and an equal number of non Co-operative Education students in your school in early September, 1996 and again in June, 1997. The reason behind these questionnaires is to investigate career decidedness in students before and after Co-operative Education.

Each student's participation will consist of them completing "The Career Decision Scale" in both September, 1996 and June, 1997. The scale is easy and quick to complete. The scale will take approximately 10-15 minutes to complete and can be administered in a group setting (i.e. during a Co-operative Education class).

All information gathered in this study is strictly confidential and at no time will individuals be identified. I am interested in finding out if Co-operative Education helps High School students in their career decision making process. Participation is voluntary, and each student may withdraw at any time. Students are free to refrain from answering any questions they wish to omit. This study has received the approval of the Faculty of Education's Ethics Review Committee. The results of my research will be available to you upon request.

If you are in agreement with having some of your students participate in this study please sign below and return one copy to me. The other copy is for you. If you have any questions or concerns please do not hesitate to contact me at 256-3866. You may also contact my thesis supervisor, Dr. G. Hache at 737-7630. If at any time you wish to speak with a resource person not associated with the study, please contact Dr. Patricia Canning, Associate Dean, Graduate Programmes and Research.

I would appreciate if you would please return this form to me by September 10, 1996.

Thank you for your consideration of this request.

Yours Sincerely,

Trina Thorne

PERMISSION FORM

I _____ (Co-operative Education Teacher) of
_____ (name of school) hereby give permission for a number
of my students to take part in a study on Co-operative Education being undertaken by Trina Thorne.
I understand that participation is entirely voluntary and that any student may withdraw at any time.
All information is strictly confidential and no individual will be identified.

Date _____

Signature _____

Dear Student:

I am a graduate student at Memorial University. I will be sending questionnaires to a number of Co-operative Education students in your school in early September, 1996 and again in June, 1997. The reason behind these questionnaires is to investigate career decidedness in students before and after Co-operative Education.

Your participation will consist of completing "The Career Decision Scale" in both September, 1996 and June, 1997. The scale is easy and quick to complete. The scale will take approximately 10-15 minutes to complete and can be administered in a group setting (i.e. during a Co-operative Education class).

All information gathered in this study will be used within my Masters Thesis, is strictly confidential and at no time will individuals be identified. I am interested in finding out if Co-operative Education helps High School students in their career decision making process. Participation is voluntary, and each student may withdraw at any time. This study has received the approval of the Faculty of Education's Ethics Review Committee.

If you are in agreement with participating in this study, please sign the permission form attached and return it to your Co-operative Education Teacher with the completed questionnaire. If you have any questions or concerns please ask your Co-operative Education Teacher to contact me or my thesis supervisor, Dr. G. Hache.

Thank you for your consideration of this request.

Yours Sincerely,

Trina Thorne

PERMISSION FORM

I _____ (name of student) of _____
_____ (name of school) hereby give my permission to take part in
a study on Co-operative Education being undertaken by Trina Thorne. I understand that
participation is entirely voluntary and that any student may withdraw at any time. All information
is strictly confidential and no individual will be identified.

Date _____

Signature _____

Dear Parent/Guardian,

I am a graduate student at Memorial University. With your written consent I will be sending questionnaires to a number of Co-operative Education students and non Co-operative Education students, including your son/daughter in early September, 1996 and again in June, 1997. The reason behind these questionnaires is to investigate career decidedness in students before and after Co-operative Education. The collected data will be used within my Masters Thesis.

Each student's participation will consist of them completing "The Career Decision Scale" in both September, 1996 and June, 1997. The scale is easy and quick to complete. The scale will take approximately 10-15 minutes to complete and can be administered in a group setting (i.e. during a Co-operative Education class).

All information gathered in this study is strictly confidential and at no time will individuals be identified. I am interested in finding out if Co-operative Education helps High School students in their career decision making process. Participation is voluntary, and each student may withdraw at any time without incurring prejudice in any form. Students are free to refrain from answering any questions they wish to omit. This study has received the approval of the Faculty of Education's Ethics Review Committee, the Superintendent of your School Board and the Principal.

If you are in agreement with having your son/daughter participate in this study please sign below and return one copy to the school. The other copy is for you. If you have any questions or concerns please do not hesitate to contact me at 258-6088 or 256-3866. You may also contact my thesis supervisor, Dr. G. Hache at 737-7630. If at any time you wish to speak with a resource person not associated with the study, please contact Dr. Patricia Canning, Associate Dean, Graduate Programmes and Research.

I would appreciate if you would please return this form to the Co-operative Education teacher as soon as possible.

Thank you for your consideration of this request.

Yours Sincerely,

Trina Thorne

PERMISSION FORM

I _____ (Parent/Guardian's name) of
_____ (name of school) hereby give permission for
_____ (name of student) to take part in a study on Co-operative
Education being undertaken by Trina Thorne. I understand that participation is entirely voluntary
and that my son/daughter may withdraw at any time. All information is strictly confidential and no
individual will be identified.

Date _____

Signature _____



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of
Education and Training

Memorandum To: District Superintendents

From: Wilbert Boone

Date: September 11, 1995

Re: A Study of Cooperation Education in Newfoundland and Labrador by Ms.
Trina Thorne, Graduate Student, Memorial University of Newfoundland

Ms. Trina Throne, graduate student at the Faculty of Education, Memorial University of Newfoundland, will be conducting a study of cooperative education in Newfoundland and Labrador during the 1995-96 school year. She has limited her study to schools offering Co-operative Education 2220 (Career Exploratory) which includes approximately 45 schools throughout the Province.

The Program Development Division of the Department of Education and Training endorses Ms. Thorne's research. She has agreed to share her results with the participating schools and the Department of Education and Training. As you are aware, some schools have had a cooperative education program for five years.

I am requesting that you support this research project and request the support of the appropriate school administrators in your district.

Thanks for your cooperation.

Wilbert Boone
Manager
Curriculum and Learning Resources

/ms

cc: Dr. Glenn Loveless
Ms. Trina Thorne

To Co-operative Education Teacher:

Please answer the following questions and return with completed questionnaires.

Name: _____

Position: _____

Name of School: _____

1. How long has Co-operative Education been in your school (including this present year)?

2. Is there currently funding (through HRD) for Co-op in your school?

If yes, how much of the Co-operative program is funded (i.e. half-time position, full-time, etc.)

3. Type(s) of Co-operative Education offered in your school:

Career Exploratory _____

Subject Based _____

4. Approximate number of students involved in Co-operative Education in your school:

5. When is the Co-op program being run in your school?

September - June _____

September - December _____

January - June _____

6. Future plans for Co-op:

7. General comments (optional):

8. Would you like a copy of the results?

Yes _____

No _____

APPENDIX G
SCHOOL PROFILES

SCHOOL PROFILES

Information on Co-operative Education

Programs in Schools in Sample

School Number	Length of time offering Co-op	Funding	% of Co-op unit funded	Types of Co-op offered
1	3 years	yes	55%	Career Exploratory
2	5 years	no	0%	Career Exploratory and Subject Based
3	3 years	yes	100%	Career Exploratory
4	4 years	yes	50%	Career Exploratory
5	3 years	yes	50%	Career Exploratory

APPENDIX H

ETHICAL GUIDELINES FOR RESEARCH
INVOLVING HUMAN SUBJECTS

Ethical Guidelines for Research Involving Human Subjects

Informed Consent

Informed consent by all subjects is required before research can be undertaken. There are four elements necessary for consent to be free and informed: disclosure of information; comprehension of information; competency to consent; and voluntarism of consent.

Written consent is normally required. Any setting aside of this requirement must be justified.

Elements of Consent Form

The following information should be included in the consent form, not necessarily in the same order. It should be written in a simple direct style using terms and language which can be understood by the prospective subject. This information should be discussed with the subject as well whenever possible. A copy of this information should be left with the subject.

1. Identities of the researcher(s) and, when applicable, identities of thesis supervisor and the university.
2. A statement of the general purpose of the study.
3. A description of the procedure(s) involving the subject including purpose, nature, frequency, and duration.
4. A comprehensive description of any physical risks which may result such as side effects, discomforts and inconveniences, and psychological risks or discomforts which might result from participation.
5. A description of any recording devices to be used.
6. A statement of confidentiality.
7. A statement on the availability of the research results to the subjects or, when applicable, to parents.
8. Details of any scheme of remuneration.
9. An explicit statement that participation is completely voluntary and that the subject has the right to withdraw from the study without prejudice at any time and/or refrain from answering whatever questions he or she prefers to omit.

10. A statement informing subjects that the study meets the ethical guidelines of the Faculty and University.
11. Participants should be apprised of their rights to inquire about the research and have recourse to a resource person outside the research group.
12. A concluding statement in the first person summarizing the information the subject has received, the consent given and incorporating the subject's signature and date. This statement should appear at the bottom of the consent form.
13. If subjects are minors, parental consent is required. If a guardian is consenting for a minor, then the minor must be named and the guardian's capacity given.
14. If a substitute decision-maker is giving consent for a subject incapable of consent, the consent must be drafted to indicate the relationship to the subject and the rationale for giving consent.
15. If an institution (e.g., school, business, residence) is involved, signed consent must be obtained from the institution and indicated in the subject consent form. This does not negate the researchers' responsibility to obtain parental/guardian consent when applicable.

Deception of Subjects

Where it is necessary to withhold or to misrepresent significant facts in informing subjects, such deception must be expressly justified by the researcher in the protocol. In particular, the protocol must demonstrate the following:

1. that the deception is indispensable to the effectiveness of the project and that reasonable alternative investigative methods are unsatisfactory.
2. that subjects will be fully informed in person by a member of the research project of all elements of the programme which were withheld or misrepresented to them as soon as possible after subject participation in the project has been completed.
3. that subjects, upon being informed of the true purpose of the research study, have the right to withdraw their representation in the research data.

Privacy of Subjects

1. The subjects must be assured that their anonymity will be protected and that all records of their participation in a research project will be kept confidential unless written permission from the subject(s) for release is obtained.
2. Since concepts of privacy vary, the question of invasion of privacy should be looked at from the point of view of those being studied.
3. Obtaining access to institutional records should respect the individual's rights to confidentiality and anonymity.
4. The privacy of third parties must be maintained.
5. In those cases where deception is not deemed essential, concealed recording devices such as one-way mirrors, concealed cameras, and concealed microphones may not be used unless the subjects (or their legal guardians) have been informed in advance that such devices may be used and that they may be among the subjects so observed. The subjects (or their legal guardians) must have agreed to participate in the research with this understanding.
6. Methods of recording behaviour which produce a permanent record of any kind which inherently reveals individuals' identity (e.g., TV/video camera, tape recording) may not be used unless the subjects (or legal guardians) are informed in advance that such methods may be used and that they may be among the subjects so recorded. Where subjects have been so recorded they must be given the opportunity to call for erasure of such recordings when their participation is complete. Such recordings may not be disclosed to persons other than the immediate researcher(s) without the written consent of the subjects (or legal guardians) nor may such recordings or derivatives (e.g., photographs) be included in a manuscript submitted for publication without the written consent of the subjects (or their legal guardians).
7. The unobtrusive observation of behaviour in clearly public places should not ordinarily be regarded as a violation of privacy. However, when such observations produce a permanent record of a kind which inherently reveals an individual's identity, then such recordings may not be disclosed to persons other than the immediate researchers without the written consent of the subjects (or legal guardians) nor

may such recordings or derivatives be included in a manuscript submitted for publication without the written consent of the subjects (or their legal guardians).

Anonymity of Subjects and Confidentiality of Data

1. Except where the subjects or legal guardians have consented otherwise in writing, the subjects' anonymity will be strictly protected and all data collected will remain absolutely confidential. Where the subjects have given written consent, information may be disclosed only within the strict limits of the terms of the consent.
2. The responsibility is on the researcher to describe positive measures to be taken to preserve the anonymity of the research subjects, both in the published results of the project, and in the records retained by the researcher.
3. Where confidential data will be stored for possible re-use, the method of recording and storing the data must be strictly designed to confer anonymity of the subjects.
4. All research assistants and persons having access to confidential data must be briefed by the researcher on the duty to observe the rules of anonymity and confidentiality.

It is the responsibility of the researcher to recognize that such concepts as privacy, confidentiality and consent vary from culture to culture. Researchers should be aware of their own culture biases which may affect the cultural sensibilities of their subjects.

APPENDIX I

CERTIFICATE OF APPROVAL

FACULTY OF EDUCATION

Memorial University of Newfoundland

**Faculty Committee for Ethical Review of
Research Involving Human Subjects**

CERTIFICATE OF APPROVAL

Investigator: *Ms. Trina Thorne*

Investigator's Workplace: *Faculty of Education, MUN*

Supervisor: *Dr. George Hacke*

Title of Research: *Untitled. (On relationship between Co-operative
Education and effectiveness at career
decision-making.)*

Approval Date:

September 24, 1996

The Ethics Review Committee has reviewed the protocol and procedures as described in this research proposal and we conclude that they conform to the University's guidelines for research involving human subjects.

Walter Okshevsky, Ph.D.
Chairperson
Ethics Review Committee

Members: Dr. Ed Drodge
Dr. David Reid
~~Dr. Glenn Sheppard~~
Dr. Amarjit Singh
Dr. Patricia Canning (ex-officio)
Dr. Walter Okshevsky
Dr. Bruce Mann
Dr. Marc Glassman
Dr. Brian Roberts

APPENDIX J

COMMENTS FROM QUESTION 19,
CAREER DECISION SCALE

RESPONSES TO QUESTION 19 ON THE CAREER DECISION SCALE

Question 19 reads:

None of the above items describe me. The following
would describe me better: (write your response below).

Some students from both the Co-operative Education group and the control group responded to this question. Some students were very sure of the career path they are interested in, while others were still unclear as to a career path. The following are some of the comments made by Co-operative Education students:

I know what I want to pursue my career in and how to go about doing it. I know a lot of information about the career and what courses to take and the degree to pursue. I even have other ideas of what I want to do in case this one doesn't work out. I also know where I am going to University next year and I am looking forward to it.

I have decided what I want to do as a career but I want to be sure this is what I want before I go into

studies. It would be better for me to find out a turn-off now than after I have completed my degree. Also I'm not quite sure exactly what to major in but I know what I want as my final result.

I have a couple of career choices in mind, but right now I am not sure exactly what it is that I want to do. In spite of this I am looking into the careers I have in mind and trying to figure out which career would best suit me.

I know what I want to do, and I know it is possible for me to do. I would just like to have experience doing it, and what jobs I can get after. Also, I have another career that I'm slightly interested in, but I don't want to give up the dream of the first job.

I am very comfortable with my career choice and I know how to go about it. Although I am not sure for how long I will remain in this career, I think I will get there and enjoy it.

The uncertain job market has left me confused regarding a career. I want to have a successful

career but I don't know what is available out there.

I'm not quite sure what I'd like to pursue as a career and when I think about it I get upset and worried about failing at my choice I finally make.

I am a very outgoing person and would like a career in something that interests me. But, I have so many interests I am not sure what to choose. I would like to find more information about certain jobs before I make a decision.

I believe I am very certain of my plans for University and a career afterwards, and I am fairly confident about future success.

The following are some of the comments made by non Co-operative Education students:

I have many interests, but I am unsure about exactly what I want to do. I need some information and guidance to help me make my decision.

I feel I know what I want and I know how to go about

getting it.

There are a couple of things I'd like to do but I don't know enough about them to know if I'm suited for that career.

I have a fairly good idea of what career I want and what I need to major in but I'm still confused about things concerning this job.

I am uncertain about my career plans at this time because I haven't really thought about a choice yet.



