Co-operative Education and the Development of Self-Esteem, an Internal Locus of Control and Work Habits

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Abstract

This study compared approximately 50 grade 12 students studying in the co-operative education mode with approximately 50 grade 12 students studying in a traditional English course. Measures of self-esteem, locus of control and work habits were compared before and at the conclusion of one semester's involvement in the different programs.

Using Coopersmith’s Self-Esteem Inventory, the students who had chosen to study in the co-operative education mode scored significantly higher than the students in the traditional course. At the end of the semester, the co-operative education students’ scores remained significantly higher than the English students'. Although the test showed no significant changes in self-esteem, anecdotal reports indicated that co-operative education students had increased self-esteem over the semester. No significant differences in locus of control were observed.
between the two groups at any time. Significant differences in work habits were observed. While both groups had the same number of absences and the same marks before taking these courses, students who were involved in co-operative education had significantly fewer absences and significantly higher marks than the students studying in the traditional course. Anecdotal reports also indicated an improvement in work habits for students who had been involved in co-operative education.

Recommendations of the study are for further research to determine more exactly how self-esteem and work habits develop in co-operative education students. Also, students, parents, teachers, and administrators need to be made aware of the success of this program.
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CHAPTER ONE

Introduction

This study is an investigation of the effects of co-operative education on self-esteem, locus of control, and the work habits of high school students.

An ancient Chinese proverb said that if you told a man how to fish, he would forget; if you showed a man, he might remember; but if you involved him, and let him fish, he would never go hungry. That proverb pointed out some of the problems that educators have faced for many years. Students of the 1980's have been told and shown many things during their years in school, but many have not been given an opportunity to apply the knowledge, skills, and attitudes that they have learned in school. According to O.S.:I.S. (1984), one of the functions that society has expected the school to perform has been that of preparing young people for their eventual entry into the working world. One of the needs of today's students has been the
opportunity to apply what they have learned in school to help prepare them for the world of work.

In response to this need, educators have offered co-operative education courses to students. In co-operative education, employers and teachers have combined efforts to design learning experiences for students both outside the school, in a place of employment, and also in the regular classroom. This was an attempt to assist students in making the transition from school to work through experiential learning. It has also been an opportunity for students to apply and test the skills and knowledge learned in school. It has likewise served employers by allowing them to have an opportunity to train these students to their specific requirements.

Elements of the co-operative education program have been traced back to the early 19th century in Europe, where it was connected to apprenticeship. The first co-operative education program in North America was started at the University of Cincinnati in their College of Engineering in 1906. Their students spent half of their days in school and and the other half on the job. In 1909 the
first secondary school co-operative education was started in Fitchburg, Massachusetts.

In Canada, as in the United States, co-operative education began at the post-secondary level. The University of Waterloo School of Engineering began the program in 1957. At the secondary school level, the first co-operative education program was initiated in 1970, at Fort Francis School, in Fort Francis, Ontario for business students. In both countries, and at both the secondary and post-secondary levels, co-operative education was originally designed to cater to technical or business students. The Canadian co-operative education program was piloted in several schools from 1972 to 1975, and in 1975 the Ontario Ministry of Education released Co-operative Utilization of Community Resources, a document that took co-operative education out of the experimental stage in Ontario and legitimized such programs in secondary schools in Ontario. At the same time, it was announced that federal funds would be provided to help boards of education set up co-operative education programs. Since that time, co-operative education programs have expanded from being an experiential mode of learning reserved for
vocational students, to an educational opportunity for all students, at all levels, in all subject areas.

Background to the Problem

In his book, *The School and Society* (1915), John Dewey made many criticisms of the methods being used in schools. He said that the school was isolated from life, that there was little place in the traditional classroom for the child to construct and create, and that children were being taught passively, en masse. He stated that "in critical moments, we all realize that the only discipline that stands by us, the only training that becomes intuition, is that got through life itself. That we learn from experience, and from books or the sayings of others only as they are related to experience, are not mere phrases." (Dewey, 1915, p.17). He promoted active learning as well as individual and co-operative learning for children. Dewey said that for the child, "The great waste in the school comes from (the student's) inability to utilize the experiences he gets outside the school itself; while on the other hand, he is unable to apply in daily life what he is learning at school" (Dewey, 1915, p.75).
In 1916, John Dewey first tied together two important ideas in his book, *Democracy and Education*. His revolutionary message was that a democratic society should provide an equal educational opportunity for all children. According to Dewey, all children had the same basic elements in their futures: the demands of work, the duties of citizenship and the obligation of each individual to make the most of himself. Dewey felt that the school should serve these fundamental purposes for all.

Dewey's ideas were radical. Until publication of *Democracy and Education*, all children had been provided with several years of compulsory education at public expense before being divided into two categories: those destined for labour, and those destined for leisure and learning. Since that time, the period of publicly funded education increased to approximately thirteen years for all children.

Eighty-four years later, in 1982, Mortimer Adler published his book, *The Paideia Proposal*. Adler felt that children were still being divided into the same two camps: those
destined for leisure and learning, and those destined for work. The Paideia Proposal presented a required curriculum for all and eliminated particularized job training. While he felt school was an inappropriate place for learning specific marketable skills, Adler did note a bridge was definitely needed between school and the working world. The Paideia Proposal suggested that in the last year of basic schooling, some form of work-and-study experience should be provided for all students. Adler said that it was fundamental that through experience, the students would come to understand both the necessity for work, and its responsibilities—the attitudes, habits, constraints and satisfactions that can only be associated with employment. He said this experience would enable students to see how education contributes to the working world.

Although they had their differences, both Dewey and Adler have expressed similar concerns. Both have suggested that education should provide the same opportunities for all children, and both were concerned that school should somehow relate to the real life work all children face.
One of the goals of education as stated by the Ontario Ministry of Education has been to help each student "acquire skills and attitudes that will lead to satisfaction and productivity in the world of work" (O.S.:I.S., 1984, p.3). Another of the stated goals has been to help each student to "develop a feeling of self-worth" (O.S.:I.S., 1984, p.3). The problem of how best to provide students with these skills, attitudes and feelings has been with educators for many years now.

Statement of the Problem

The major area of concern to be addressed here is the bridge between the school and the outside world of work. The Ontario Ministry of Education is presently promoting co-operative education programs, stating that "co-operative education courses can develop skills needed in a social-service activity, business, a vocational pursuit, or some special activity or study in the community" (O.S.:I.S., 1984, p.25). They state that through these courses, schools will be able to "effectively meet certain educational needs of students" and that students "at any level of learning" should be able to participate in them (O.S.:I.S., 1984, p.25).
However, the Ontario Teachers' Federation report, *The School to Work Transition* (1983), recommends that research be conducted on the effectiveness of co-operative education programs in helping students make the transition from school to work. This study will consider some of the educational needs and skills that co-operative education may help to develop.

Definition of Terms

Co-operative education is an educational program that is based on a partnership between students, teachers and employers. It is an on-the-job learning program which hopes to provide students with the skills, knowledge and attitudes that are realistic in today's and future job markets. A co-operative education course consists of two major related components, one out-of-school and one in-school, each giving reinforcement and relevance to the other. Co-operative education provides an opportunity to extend the classroom experience into the community, where students are involved in an individualized curriculum. The teacher and employer combine efforts to design an educational learning experience that meets the individual needs of each student.
The idea of "self-concept" was discussed by Purkey (1970) and others. He pointed out that each person had a "self-concept" made up from the complex and dynamic system of beliefs that each individual holds to be true about himself or herself. He noted that the concept was organized, and that it could be changed. It has been constructed by each person as a result of the interactions he or she has had. Our beliefs about ourselves have affected not only our perceptions about the world and other people, they have also influenced our actions.

Coopersmith (1967) concluded that one's self-concept developed according to four bases: one's significance, competence, virtue, and power. The higher people rated themselves on all four measures, the higher they rated overall. This overall rating of one's self has become known as self-esteem.

Self-esteem has been closely tied to Rotter's (1954) construct of locus of control. The basic dichotomy that was identified in Rotter's theory was between the personal perception of internal versus external control. The person who felt powerless and totally controlled by factors outside himself or herself was said to be
externally controlled, while the person who felt that he or she was able to exert a great amount of control over his or her own life was internally controlled.

The way one perceives one's self to be may have some influence on the way one performs his or her work. For the past several centuries, Europeans and North Americans have been characterized as people subscribing to, and living by what has been called the Protestant ethic. This was originally a belief system characterized by respect for a Christian God, and for the characteristics of diligence, thrift, sobriety and prudence. While it began as a sacred orientation, the Protestant ethic has gradually evolved into a philosophy often associated with capitalism. Taught in both the churches and schools, it stressed that one should more than earn one's pay. This attitude has also been called the work ethic (Hobbs and Blank, 1975). According to the work ethic, people ought to be able to work hard and take pride in their jobs.

Purpose of the Study
The purpose of this study is to determine whether students who study in co-operative education courses develop differently from students who study in the traditional
classroom. To implement courses whereby students receive individual instruction in conjunction with an employer in the community requires much preparation, time and expense. Therefore, if students who participate in co-operative education courses do not develop in desirable ways, then the Ministry of Education should be made aware of this finding so that the problem may be rectified. On the other hand, if co-operative education courses are successful in bringing about desirable changes, then the results of this study may help to promote such programs to students, teachers and community involved.

Education has been concerned with helping the students obtain the skills and attitudes that will help them succeed in the world of work and feel self-worth. The present study attempts to determine whether co-operative education influences the development of these characteristics.

Rationale

In the Fall of 1987 in Ontario, the provincial government announced that an additional amount of funding, specifically, 4.5 million dollars was being made available
just for co-operative education programs in Ontario. The Federal government also continued its funding of co-operative education programs because of its interests in aiding youth, minorities, the disabled and re-entry workers. Additionally, at the regional level, boards of education have allocated funds specifically for this expensive program based on very little documented research evidence of its success. While the idea has had philosophical support for some time, there has been little documentation that all of this money has been spent wisely.

While the concept has been operating in the United States for close to eighty years, it has only recently started to expand rapidly in Ontario. During the 1985-86 school year, more than 30,000 students in Ontario secondary schools took part in co-operative education. Registration in such courses in Roman Catholic secondary schools rose a phenomenal 338% over the previous year, while a 38% increase in registration was found in public secondary schools. This increased popularity, like the increased funding has not been based on any documented evidence that co-operative education has been beneficial for students (or for the schools, or for society). It seems to have
been based largely on intuition and the 'gut feeling' that it has been beneficial. Documented evidence of the benefits of the program would help to justify the funding of such programs and help to promote such programs to those who have not yet become involved in them.

Delineation of the Problem
In order to determine whether any positive changes have been observed in students enrolled in co-operative education courses, it is necessary that co-operative education students be compared to similar students not registered in co-operative education courses, and changes noted over the time that students are registered in the co-operative education course. Since the majority of students enrolled in co-operative education in Ontario are studying at the grade 12 general level, these students will be compared to students enrolled in a grade 12 general level English course. Comparisons will be made for any changes observed in self-esteem, attendance, marks achieved, locus of control, and anecdotal records by students, parents, and employers.

Hypotheses
Based on the assumption that students do develop certain
unique characteristics in the work world that they do not develop in the traditional classroom, it is hypothesized that there will be significant differences in changes observed. It is hypothesized that students who have completed co-operative education courses will have developed higher self-esteem, have improved attendance and marks, and a more internal locus of control than students who have not been involved in the course. It is also hypothesized that co-operative education students, their parents and employers will detect these positive changes and note them in their anecdotal records of the experience, while students not involved in co-operative education courses will not observe such positive changes.

Assumptions
For the sake of practicality, several specific characteristics need to be identified so that they may be observed or tested, to study any changes that may occur. The feeling of self-worth may be observed through a test of self-esteem. The characteristics that indicate whether one has obtained the skills and attitudes that will lead to satisfaction and productivity in the work world seem to be more ambiguous. Anecdotal reports may give some indication of changes in these characteristics, as may
attendance figures, mark records as well as the results of a Locus of Control test. It may be assumed that students who feel that they are less controlled by external factors and more internally controlled will be more satisfied and productive in the world of work.

Delimitations of the Study
Some limitations of the study may influence the findings. It is unlikely that all of the students who are initially tested for this study will be available for comparison testing at the end of the program, since families move in and out of the community regularly, and students may drop out of either course for various other reasons. Another factor that may interfere with the results would be the finding that the two groups as tested originally, are not similar. It may be that students who select co-operative education courses are quite different from those who choose to study in a traditional classroom setting. Another important limitation in this study may be the time allowed to observe changes. In a semestered school system students are only involved in co-operative education programs for five months. Perhaps changes may take longer than five months to detect. One final limitation may be the size of the sample studied. A sample of approximately
50 co-operative education students being compared to approximately 50 English students may be too small a sample to detect significant differences. Despite these limitations this study will certainly provide information, and an analysis of that information for taxpayers, educators, and all those presently involved in co-operative education programs.

Outline for the Remainder of the Thesis
Chapter Two will give a review of the literature related to co-operative education, self-esteem, locus of control, and work habits. This will acquaint the reader with the existing studies, highlighting what has been found, who has done work, and where and when the latest research studies were completed. The need for this study will be tied to this literature review.

Chapter Three will focus on the methodology that will be used in this study. The research design, selection of subjects, instrumentation, procedures, data collection and processing will be detailed.
Chapter Four will present the findings of this study. An analysis of the findings, and an evaluation of the findings will be included here.

The final chapter of the study, Chapter Five, will present a summary of the first four chapters, as well as conclusions based on the findings. Recommendations for implementation of the findings or for additional research will be made in this last chapter.
As the title of this study indicates, four areas of interest are to be investigated. Previous research findings in the areas of co-operative education, the development of self-esteem, locus of control, and work habits will each be reviewed. The methodologies used will be discussed along with a critical analysis of the research.

Co-operative Education
Despite the rapid growth of co-operative education at both the secondary and post-secondary levels an accompanying growth of impact studies and systematic program evaluation has not occurred in the literature. Much of the current research has been conducted at the post-secondary level rather than the secondary school level. This lack of information has hindered secondary school educators in their curriculum decisions.
The value of relating education to employment has been identified by many observers. Because students have been exposed to the real working world, a dimension of reality has been added to the educational experience. Students have been able to develop career interests and become oriented to the work environment through co-operative education (Tyler, 1981). Tyler, evaluating the pedagogy of co-operative education programs in the United States, concluded that such programs were very valuable in that they gave high school students a chance to combine academic skills with work experience. A more recent study of employers confirmed these results. Winer and Kane (1983) found that employers rated co-operative education as an excellent recruitment tool, since it gave students an orientation to the world of work. King (1986) stated that co-operative education has been "one of the most successful ways to deal with the transition of students from school to work" (page 10).

Co-operative education programs have given secondary school students an opportunity to combine academic skills with work experience. Students enrolled in co-operative education have been able to apply the skills that they have learned at school to a real work situation. The
growing popularity of co-operative education in Ontario would seem to indicate that those involved have felt that the experience was valuable for students. However, few studies have examined its impact more specifically.

Co-operative education educators believe that students enrolled in co-operative education develop many desirable skills and attitudes. Most of these educators say that their students seem to feel more confident and appear to be more motivated towards work at the conclusion of their co-operative education program than those who were not enrolled in these programs (Shaughnessy, 1986). This feeling of confidence may be an indication that feelings of self-worth have developed as the Ontario Ministry of Education goal has required (O.S.:I.S., 1984, p.3). However, this factor has not yet been thoroughly investigated.

Self-Esteem

This feeling of self-worth has been related to the idea of self-concept and self-esteem (Purkey, 1970). Purkey (1970) found that one's self concept has been heavily influenced by social contexts. For students, the school has been a very important social context. For many years,
students' work has been defined by teachers, and so has their success and therefore, their self-esteem. As young people move through secondary school, and into the world beyond that, they will have been exposed to many different environments that provide opportunities for feedback about their own skills and capabilities. There has been much research to determine the ways that self-concepts are related to academic abilities and school performance (for summaries, see Byrne, 1984 and Purkey, 1970).

A high level of self-esteem has been seen to be desirable because it allows one to function more effectively, while low self-esteem has been found to result in higher levels of anxiety, more frequent psychosomatic symptoms, less effectiveness and more destructive behaviour (Clark, 1979). Children with high self-esteem have more often acquired a sense of independence, exhibit exploratory behaviour and express more self-trust (Clark, 1979). Children with high self-esteem have been more able to actualize their capabilities.

Studies considering the changes that have been observed in students who participated in co-operative education have
shown differing results in the areas of self-concept. The final evaluation report on Rhode Island's Experienced-Based Career Education Project (EBCE) (1979) indicated that students showed no significant increase in self-concept. This data was gathered from student opinion surveys comparing EBCE students with a control group both five and ten years after the program.

Another EBCE program from St. Charles Parish School, Luling, Louisiana, (1977) found that there was some support for the development of self-concept in students who had participated in that program. One of the goals of this program was to provide students with personal perspectives that would aid in the selection and pursuit of adult goals in life. This was a third party evaluation comparing a control group of secondary school students with the EBCE students.

Gade and Peterson (1980) contributed additional information about the relationship between working and socioeconomic status, school achievement, activity, and self-esteem. Students who were employed in co-operative education programs seemed to perform as well or better on these indicators than non-working students.
In 1984, Meridan Public Schools in Connecticut evaluated the Aetna Cooperative Work Experience Project. This was a joint venture between Aetna Life and Casualty (an insurance company), and Meridan Public Schools. Disadvantaged minority high school students were provided with co-operative education experience in an office setting. The Attitude Toward Work Test was administered on a pre- and post-test basis to the students. A slight gain was noted in the feeling that work contributed to self-confidence and self-esteem.

Two recent studies done in Ontario with secondary school students have found very positive results. Shaughnessy (1986) used the Personal Skills Map to compare students who had been enrolled in co-operative education courses with students who had been enrolled in traditional classes. On the Personal Skills Map, one area that co-operative education students showed a significantly positive change was in self-esteem. Stressman (1987) also used the Personal Skills Map to compare co-operative education students to non-co-operative education students. Among adolescent secondary school students, those who had participated in co-operative education had developed a
significantly higher level of self-esteem than those who had not participated.

The inconsistency in these results could be due to various factors. Each of these researchers has studied a different co-operative education program, and this could be the reason for the varying results. It is possible that one program may positively influence self-esteem, while another program does not. Another explanation for the inconsistency may be that the researchers were using differing methodologies. The student opinion surveys showed no significant increase in self-concept, while third party evaluations and written tests found positive changes. It is possible that the students were not aware of, or did not want to reveal that the co-operative education program had influenced their self-esteem. Also, the student opinion surveys had been done both five and ten years after the program, while the other researchers' tests were done immediately following the program. It may be that the influence of the program may not last five or ten years later. It is possible that all of these factors have brought about inconsistent results in the area of self-esteem.
Locus of Control

Self-esteem has been closely tied to Rotter's (1954) construct of locus of control. A study by Gadzella, Williamson and Ginther (1985) found positive correlations between locus of control and self-concept for both male and female university students. In general, they found that positive self-concepts were more likely to be associated with internal attributes of personal control in both men and women. According to their study, these results have been consistent with the results of previous studies. Clark (1979) found that children with high self-esteem more often acquired a strong inner locus of control.

Gadzella, Williamson and Ginther (1985) also tested to determine whether self-esteem and locus of control were correlated with Grade Point Averages (GPA) for university students. They found that GPA scores correlated significantly with self-esteem scores for both men and women, however, locus of control scores did not appear to be directly related to GPA. However, several other studies have found that locus of control has some relation to GPA. Karmos, Bryson and Tracz (1982) found that for disadvantaged university freshmen, locus of control scores
were good predictors for GPA scores. For disadvantaged university students, they found that those who had a high level of internal locus of control were more likely to have higher GPA scores. Traub (1982) also found that female university students' locus of control scores were significantly related to GPA scores in the same manner.

Nowicki (1982) also studied the relationship between locus of control and achievement in co-operative versus competitive situations. Generally, it was found that individuals with an internal locus of control achieved more than those with an external locus of control in competitive situations. However, in co-operative situations, those with an external locus of control were able to increase their significantly low performance to equal the performance of those who were internally controlled. Those with an internal locus of control maintained their level of achievement in co-operative situations. Therefore, it seemed that locus of control had been a characteristic that may change in different situations.

Patton and Noller (1984) studied the long-term effects of unemployment on youth in Australia. They found that
unemployed high school students had increased external locus of control scores and decreased self-esteem as the length of time of unemployment grew. No studies were located that studied the relationship between co-operative education and locus of control.

Work Habits
In the United States, recent surveys have indicated that a large majority of the general public believe that people's willingness to work hard and take pride in their work has deteriorated in recent years (Yankelovich and Immerwahr, 1983). Spence (1985) reviewed recent studies on the work ethic. She concluded that the popular belief that people have not been working as hard or as well as they once did may have some validity.

Several studies have researched the relationship between locus of control and work ethic. Mirels and Garrett (1971) found a significant correlation of -.30 when comparing the locus of control to work ethic. They found that the more a worker agreed with the ideals of the work ethic, the less extrinsically controlled they were. Furnham (1984) reviewed the literature on work ethic and concluded that those with a high work ethic were likely to
have an internal locus of control and were concerned with achievement and ambition. Flannery (1984) found that among college students, those who had an internal locus of control as well as a high work ethic reported less physical illness associated with life stress.

The majority of the research that has considered the relationship between co-operative education and work ethic has found positive results. For example, Wilson (1974) found that co-operative education had a positive effect on students' maturity. These students were found to view career development with greater increasing significance than non-co-operative education students. Wilson (1974) also suggested that co-operative education students placed a higher priority on career establishment.

The Portland EBCE project evaluation (Welsh, 1977) had favourable results also. Thirty-three students were pre- and post-tested in career development and life skills. Document reviews, observations, interviews with students and staff, and opinion and attitude questionnaires administered to parents and resource persons were all used in the evaluation. The majority of attitudes expressed
toward that program were positive, and all student objectives were achieved.

The Appalachian Maryland EBCE Project Evaluation strongly supported co-operative education (Stead and others, 1977). Both experimental and control students were pre- and post-tested using the Career Maturity Inventory, the Watson-Glasser Critical Thinking Appraisal, and a student profile sheet. In this program, the EBCE students demonstrated substantial gains in career skills and career decision-making. They also exhibited exemplary academic progress and the attitude towards education improved as a result of the program. Stead and others (1977) also reported that the support of local constituents and the community for EBCE was very strong and impressive. The results of this evaluation were very positive of such programs.

The Work in America Institute (1978) report was also very supportive of co-operative education programs. This study explored the impact of two high school work experience programs on students. Data were gathered directly from student and employer participants and graduates of the programs in New York and Delaware. The majority of
students and employers felt that the most valuable outcomes of the programs were both the opportunity for career exploration, career education and skill development, as well as the personal growth of the student and development of interpersonal skills.

Such positive results have not been found by all researchers. The 1979 third party evaluation of Rhode Island's EBCE Program showed no significant increase in career maturity, career knowledge, or learning attitudes over the three year period. Forty-one grade ten and eleven students had been matched with similar groups of students who were not participating in co-operative education. The evaluator felt co-operative education students had varied in attaining the objectives related to acquiring positive work habits, positive attitudes, and career decision-making skills, commitment to career development activities, increased career skills, and knowledge of career options.

Debra Canna (1982), in her survey of the literature on the effects of co-operative education on highschool students' career choice, generally found positive results. Studies comparing co-operative education students with
non-co-operative education students generally indicated that the co-operative education students were superior in terms of career attitudes and career maturity. Studies seemed to indicate that co-operative education students put a higher priority on career establishment than non-co-operative education students. Canna (1982) also found that the few longitudinal studies that have been done on career retention showed that co-operative education graduates had remained in, or were committed to, careers they had explored through co-operative education for up to five years.

Winer and Kane (1983) considered the employer evaluations of high school work experience programs. They sent questionnaires to actively participating co-operative education employers in New Jersey. They found that employers rated co-operative education as an excellent recruitment tool. The employers felt that co-operative education was an excellent opportunity to recruit full-time employees who had positive attitudes towards work.

The two recent Ontario studies also found very positive results in the area of work habits. Shaughnessy (1986)
did pre- and post-tests of high school students in the co-operative education course using the Personal Skills Map. She found that the three most improved areas for co-operative education students were assertion, commitment ethic and interpersonal comfort. Sales orientation (influence and persuasiveness) was another area of observed marked change for co-operative education students. It was noted that the co-operative education students in the semestered school changed much more dramatically than those in the non-semestered school, which seemed to imply that the four month concentrated program was even more beneficial than the eight month program.

Stressman (1987) also found significant differences in adolescent day school co-operative education students compared to non-co-operative education students. Using the Personal Skills Map she found significant differences in commitment ethic, time management, decision-making, empathy and drive strength. Once again, very positive results have been associated with co-operative education.
Summary

While overall the results seem to be very supportive of the positive changes that have been observed in students who participate, some negative results have been reported in the literature. Although various instruments have been used that reported changes in self-esteem, other researchers have not specifically tested to observe any possible changes in self-esteem for students participating in co-operative education programs. Since an increased level of self-esteem seems desirable, this finding could be very valuable. No research could be found that related locus of control to co-operative education. Since an internal locus of control seems to be associated with positive outcomes for students, this information may also be of interest to students, parents, teachers, and administrators. The relation between co-operative education and a strong work ethic appears to be positive. Most of the American studies have supported a positive relationship, but in Ontario more research needs to be done to determine the nature of this relationship.
Overview
This chapter will discuss the research methodology to be used in this study of co-operative education and its effects on self-esteem, locus of control and work habits. The research design will be clarified and the sample population will be identified. The instrumentation, data collection and recording planned for this research will be described, as will the methods to be used in data processing and analysis. Possible limitations of this methodology will also be reviewed.

Research Methodology
The design of this study will be quasi-experimental. A true experimental design cannot be used in this study because the subjects cannot be randomly exposed to experimental and control groups. A nonequivalent pre-test/post-test comparison group design will be used. Two intact, already established groups will be given
pre-tests, different treatment conditions will be administered to each group, and then both groups will be given post-tests.

There are several variables that will be considered in this study. The dependant variables to be measured are self-esteem, locus of control and work habits. The experimental variable in this study is the course in which the students are enrolled, either co-operative education, or non-co-operative education. The purpose of this study is to determine whether students who have been enrolled in co-operative education courses differ from students in traditional classes in their self-esteem, locus of control or work habits at the conclusion of the course.

There are three major hypotheses proposed for testing in the present study:
H1-There are no statistically significant differences in self-esteem between students who have studied co-operative education and students who have not studied co-operative education.
H2-There are no statistically significant differences in locus of control between students who have studied
co-operative education and students who have not studied co-operative education.

H3—There are no statistically significant differences in work habits between students who have studied co-operative education and students who have not studied co-operative education.

Sample

Data will be collected from approximately 100 secondary school students. This will include approximately 50 students enrolled in a co-operative education course, and 50 students enrolled in a grade twelve general level English course who meet the following conditions: both student and parental permission is granted, and the student remains enrolled for the whole semester at E.C. Drury High School in Milton, Ontario. A grade twelve general level course is being used as the comparison group to help ensure that both groups are as similar as possible at the onset of the study, since the majority of the students enrolled in the co-operative education course will be at the grade twelve general level. Other efforts to make the groups as similar as possible will include choosing classes that are similar sizes, and have similar characteristics of gender. Classes that meet at the same
time of day will be chosen for comparison. Similar pre-test scores will show that both groups are initially similar.

Instrumentation

Self-Esteem

The Self-Esteem Inventory developed by Coopersmith (1967) will be used to assess self-esteem. This inventory is operationally defined as a measure of "the evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy" (Coopersmith, 1967, p. 4-5). This scale measures evaluative attitudes towards the self in social, academic, family and personal areas of experience. A lie scale also assesses extremely socialized response sets. Although the scale was originally devised for use with children, a separate adult form tests those over sixteen years of age. The adult form has twenty-five items and yields one score. Reliability coefficients of .88 to .96 (test-retest) have been reported by Coopersmith (1967) and .81 (internal consistency) by Spatz and Johnston (1973).
Locus of Control

The Locus of Control Scale by Nowicki and Strickland (1973) will be used to measure generalized expectations of internal versus external control of reinforcement. This scale attempts to measure whether an individual believes in an internal or an external control of his life. This scale is a forty item paper and pencil test having a yes-no response mode. Estimates of internal consistency via the split-half method for grade twelve is r=.81, and test/re-test reliabilities were .71 for the tenth grade (Nowicki and Strickland, 1972 as reported in Nowicki and Strickland, 1973).

Work Habits

In order to observe changes in the students’ work habits, their attendance and marks records will be examined to compare the records from the previous semester with those at the conclusion of the semester being studied. It is assumed that improved attendance and marks indicate improved work habits.
Qualitative Instruments

Interviews with teachers who have taught students who have studied in the traditional classroom, and other students who have learned through co-operative education may reveal some differences in work habits, locus of control and/or self-esteem. Also, anecdotal records of students' progress by teachers, and employers may also show evidence of improved work habits, locus of control and/or self-esteem.

Procedure

During the first week of the semester, students in both the co-operative education classes and the English classes will be told that they have been chosen to participate in a study that is evaluating one of the courses offered at the high school. They will be asked to sign a form consenting to participate in the study. Students will be asked to take the form home to obtain their parents' signed consent as well. Approximately one week later, when all the signed consent forms have been collected, students in both courses will be given both the Coopersmith Inventory and the Locus of Control Scale. Both groups will complete these two tests on the same day. Both groups will be given the same instructions asking
them to fill out the forms individually and as honestly as possible. During the last week of the semester, once again, on the same day, and given the same instructions, both groups will be asked to complete the two tests. All of the tests will be hand scored by the researcher, and the results will be recorded for analysis.

Students' attendance and marks records from the previous semester will be obtained from the student services department at the school during the first week of the semester being studied. At the conclusion of the semester their attendance and marks records will again be reviewed. During the semester, teachers who have taught both co-operative education students and traditionally schooled students will be interviewed and asked to comment on both groups' work habits, their apparent level of self-esteem, and locus of control. Throughout the semester anecdotal records of the co-operative education students' progress will be collected from teachers and employers as well as from the students themselves.
Data Analysis

Self-Esteem

The mean and median scores for self-esteem on both the pre-test and post-test for both the co-operative education class and the English class will be calculated. The standard deviation for each of these sets of scores will also be calculated. To compare the scores for both classes, an analysis of variance will be done both pre- and post-test.

Locus of Control

The mean and median scores for both the pre-test and post-test for both the co-operative education class and the English class will be calculated. The standard deviation for each of these sets of scores will also be calculated. To compare the scores of both classes, an analysis of variance will be done for their locus of control scores as well.

Work Habits

The mean and median number of student absences, and student grade averages for both the present semester and for the preceding semester will be calculated. Standard deviations for each of the means will also be calculated.
An analysis of variance for each of these factors will be used once again. Interview results, and anecdotal records will be reviewed and analysed individually.

Limitations
While the experimental method to be used is a non-equivalent pre-test/post-test comparison group design, every effort will be made to make both groups as equivalent as possible. The two groups to be compared will be as similar as possible when the pre-test is done. The grade twelve level has been chosen for comparison because the majority of the co-operative students will be at that level, and general level students are to be used for comparison because the majority of the co-operative education students will be studying at that level. Classes offered at the same time of day will be used so that that factor will not cause any interference between the two groups of subjects. It is hoped that this process will overcome any effects caused by the threat of selection on the internal validity of the study.

Maturation could be another factor influencing the internal validity of this study. Both groups of students
will develop and change over the time period being studied. By selecting groups that are, under the conditions at this school, as similar as possible initially, it is hoped that any effects caused by maturation will occur equally in both groups. By analyzing only the differences between the pre-tests and post-tests, and pre-semester/post-semester marks and attendance, it is likely that any differences observed, will be a result of the difference in program that the students have been enrolled in, rather than the influences of maturation.

Other possible threats to internal validity include history, statistical regression, instrumentation, mortality, and statistical conclusion. It may be assumed that since both groups will initially be as similar as possible, and that aside from the different courses in which students have been enrolled, conditions for both groups will be very similar, and any differences observed will be a result of enrollment in different programs. It may be assumed that both groups will receive equal treatment as far as the influences of history, statistical regression, instrumentation, mortality or statistical conclusion may occur.
Every effort will be made to avoid the effects of diffusion of treatment and experimenter bias. To eliminate the influences of diffusion of treatment, neither the control group nor the experimental group will be aware of the independent variable actually being manipulated. Both groups will simply be told that the study will help to evaluate the program in which they are enrolled. To control experimenter bias, the students' regular classroom teacher will deliver the instructions for and actually supervise the pre- and post-tests. Both teachers will receive the same instructions for administering the tests. These efforts will help to eliminate any effects of experimenter bias for this study.

Conclusion
As Ralph Tylor (1981) stated, "Those of us who have been closely associated with cooperative education have observed many examples of the educational values of this form of education" (p. 48). It is hoped that this study of the effects of co-operative education on self-esteem, locus of control and work habits will illustrate some of the influences that this type of program exerts on students.
CHAPTER FOUR

Introduction

This study considered the effects of co-operative education on secondary school students' self-esteem, locus of control and work habits. Data were collected from 83 secondary school students over five months. Forty-seven students enrolled in grade twelve general level English courses were compared to thirty-six students enrolled in co-operative education courses at the same school. Students were tested on the same days, at the same time of day, and classes that were similarly composed (by student and teacher gender) were studied. Pre-tests and post-tests for self-esteem and locus of control were done with the students. Attendance and marks records were obtained from the students' files. Anecdotal records were obtained from the students, teachers and employers.

Analysis of the findings has been separated into two categories. Quantitative data obtained using the tests of self-esteem and locus of control, as well as attendance
and mark records will be considered separately from the qualitative data gathered through anecdotal reports.

Quantitative Data

Self-Esteem. The Self-Esteem Inventory developed by Coopersmith (1967) was used in both the pre-test and post-test to assess students' self-esteem. Table 1 shows the results of the tests of self-esteem.

Table 1
Self-Esteem

<table>
<thead>
<tr>
<th></th>
<th>English Pre-test</th>
<th>English Post-test</th>
<th>Co-op Pre-test</th>
<th>Co-op Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean</td>
<td>57.05</td>
<td>63.50</td>
<td>77.06</td>
<td>76.00</td>
</tr>
<tr>
<td>med</td>
<td>58.00</td>
<td>66.00</td>
<td>80.00</td>
<td>78.00</td>
</tr>
<tr>
<td>sdev</td>
<td>19.52</td>
<td>21.34</td>
<td>13.34</td>
<td>16.24</td>
</tr>
</tbody>
</table>

A one-way Analysis of Variance (ANOVA) test found that the means of the pre-test scores of the co-operative education students were significantly different from the pre-test
scores of the English students, $F(1,76) = 26.99$, $p = 1.728535E-06$. The co-operative education students had significantly higher self-esteem scores at the beginning of the semester than the English students. There was no significant difference between the pre-test/post-test scores for either the English students or the co-operative education students. The post-test scores of the co-operative education students were significantly higher than the post-test scores of the English students, $F(1,60) = 6.65$, $p = 1.24$.

Locus of Control. The Locus of Control Scale by Nowicki and Strickland (1973) was used to measure students' general expectations of internal versus external control in their lives. Table 2 illustrates the results of both groups' pre-test and post-test scores on this scale.
Table 2
Locus of Control

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>English</th>
<th>Co-op</th>
<th>Co-op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td></td>
<td>Post-test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>12.56</td>
<td>11.78</td>
<td>12.97</td>
<td>11.97</td>
</tr>
<tr>
<td>med</td>
<td>12.50</td>
<td>10.50</td>
<td>13.00</td>
<td>11.00</td>
</tr>
<tr>
<td>sdev</td>
<td>4.85</td>
<td>5.51</td>
<td>5.74</td>
<td>5.48</td>
</tr>
</tbody>
</table>

A one-tailed ANOVA comparing the English students to the co-operative education students found no significant difference between their pre-test scores. No significant difference was found between the means of their post-test scores either. No significant difference was observed between the pre-test and the post-test scores for either the English students or the co-operative education students.

Work Habits. Several aspects of students’ work habits were considered. Students’ attendance, marks, and anecdotal reports were all considered as evidence of students’ work habits.
Students’ attendance records from the semester immediately preceding the study were compared to attendance records from the semester during the study. Full and half day absences other than those required for field trips and other school-authorized activities, such as team sports activities were totalled for both semesters. Table 3 shows both the English students’ and the co-operative education students’ absences before and during the present courses.

Table 3

Attendance

<table>
<thead>
<tr>
<th></th>
<th>English Before</th>
<th>English During</th>
<th>Co-op Before</th>
<th>Co-op During</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean</td>
<td>6.22</td>
<td>15.28</td>
<td>8.65</td>
<td>3.13</td>
</tr>
<tr>
<td>med</td>
<td>4.00</td>
<td>14.00</td>
<td>5.25</td>
<td>1.75</td>
</tr>
<tr>
<td>sdev</td>
<td>6.11</td>
<td>11.66</td>
<td>7.78</td>
<td>3.69</td>
</tr>
</tbody>
</table>

Using a one-tailed ANOVA, the means of both the English students’ and the co-operative education students’ absences from the semester before the study were compared.
No significant difference was observed between the two groups at that time. However, when the two groups' absences were compared for the semester during the study, the English students had significantly more absences than the co-operative education students, $F(1,79) = 34.31, p < 10^{-6}$. During the semester of this study, the English students had significantly more absences than they had had the previous semester $F(1,92) = 22.25, p = 8.583069E-06$, while the co-operative education students had significantly fewer absences than they had had the previous semester $F(1,66) = 13.93, p = 3.963113E-04$.

The students' average marks for the semester immediately preceding the study were compared to the students' average marks during the study. Table 4 illustrates the average marks for the English students and the co-operative education students both before the study and during the study.
Table 4
Student Averages

<table>
<thead>
<tr>
<th></th>
<th>English Before</th>
<th>English During</th>
<th>Co-op Before</th>
<th>Co-op During</th>
</tr>
</thead>
<tbody>
<tr>
<td>mean</td>
<td>63.2</td>
<td>60.8</td>
<td>63.2</td>
<td>69.7</td>
</tr>
<tr>
<td>med</td>
<td>64.5</td>
<td>64.0</td>
<td>66.0</td>
<td>67.0</td>
</tr>
<tr>
<td>sdev</td>
<td>12.1</td>
<td>13.0</td>
<td>11.5</td>
<td>9.0</td>
</tr>
</tbody>
</table>

A one-tailed ANOVA revealed that in the semester before the study, the means of both groups' averages were not significantly different. However, during the semester that one group was studying co-operative education, those students displayed significantly higher averages than the students studying English. $F(1, 77) = 10.969, P = 1.412531E-03$. The co-operative education students showed a significant improvement in their marks when studying co-operative education. $F(1, 59) = 6.16802, P = 1.58616172E-02$. 
Qualitative Data

Anecdotal records of the co-operative education students' progress were also collected from teachers, employers and from the students themselves. All three sources noted changes observed in the students.

Ten teachers from various subject areas were interviewed. Teachers from the technical, social sciences, business, communications, and special education departments all noted numerous positive differences when comparing students who had completed co-operative education to those who had only studied in the traditional classroom setting.

Teachers from the technical department noted such things as "The co-op student has a more realistic outlook and a better appreciation of expectations at work. They show an obvious improvement in attitude. The co-op student sees the merit in sequential planning better than other students because that student has experienced this on the job." "Co-op kids know what real-world expectations are. They have experienced success in their work, so they have a better sense of pride through the real world. They're not basing their feelings of self-worth on artificial
feedback”. "After students have been through co-op I certainly see a great change--they suddenly are "turned on" (because they are doing a realistic job). I see them making a real effort to learn, they now enjoy a challenge. They have confidence in their ability, they know how important punctuality is and I see a good attitude towards work. They readily accept responsibility”.

Special education teachers noted the improvements they see in students with learning problems. "Special education students who go through co-op show an improvement in self-esteem and self-confidence that can be seen in their physical appearance". "Co-op grads have greater stick-to-itiveness, and better grooming. They are able to speak out better, to give their opinion, and are not quite as self-conscious of what they think. Sometimes they go overboard and think that they’re better than their classmates. Much depends on where they’ve worked and their level of ability and many still need constant direction”.

Communications teachers noted similar things. "They are more mature, self-reliant and have a much more positive
image of themselves. They can be trusted with more tasks. "Generally, I've noticed a difference in appearance. They take better care of themselves and their clothes. They seem to be handling the workload more maturely. They can work more independently and accept responsibility for a greater workload".

One teacher in the business department noted, "I think that the students in co-op have developed more self-confidence in themselves over the term. A noticeable difference is in the really shy types. I think that they are now more aware of areas such as timelines, organization, employer expectations and the responsibility of holding a job".

A social science teacher said, "Almost all students seem to mature a great deal over a semester in co-op. Suddenly they seem to understand what responsibility is. They have a new respect for attendance, punctuality and deadlines, and they discuss any problems that they see coming ahead of time, rather than waiting until it's too late. During class discussions their maturity really shows in both what they say, and in how they say it. They are not afraid to
express their own opinions even when it goes against the other students'. Co-op seems to have had a very positive influence.

Employers commented on some of these positive changes too. One employer who has taken cooperative education students for several years had the following comment, "Much depends on the skills that the student already has before they start working here. We have offered positions to some students even before they finish their co-op course but others are not ready for that. For many it's a shock to learn that perfect means perfect. They just can not get away with spelling mistakes, grammatical errors or poor writing style here. They all learn that there are standards to be followed and they learn to accept that".

Another employer commented on the physical changes observed in cooperative education students. "As the term goes on you can see the self-confidence growing in students. It doesn't take long before they realize that their appearance on the job is important and they tidy that up. But you can also see that they are standing up straighter and they walk up to customers confidently instead of avoiding them. They realize that they are
important to the company and that we are counting on them to represent us well so they do just that."

One employer suggested that the attention that they are able to give cooperative education students is important. "When we agree to take a co-op student we know that they are not regular employees. We are taking them, to let them see what it's like doing this job, and we know that they're going to need training. We all work to help the student understand the job that they're supposed to do. As the student catches on, it's great to see them fit in and start to feel comfortable with everyone. They help out a lot eventually and we let them know how much they're helping us."

One employer said, "I'd rather hire a student who's been with us on co-op than any other student. They're more reliable and they know the rules of full-time work. You know that they've already learned that. They're less likely to quit because they have a better idea about what they want to do since they've had a chance to try out the job first."
The students themselves noted the positive changes that had occurred during their semester in co-op. No negative changes were noted by the students. They noted positive changes in skill development, knowledge about the work world, and also positive emotional growth.

One student who had worked in a technical co-op work placement noted: "I feel a little more comfortable with the machines and knowing my abilities on them. I know now that I would like an apprenticeship as a welder fitter in the future. The career opportunities are good in this field because there is a great demand for this job, and after you get your papers you can go almost anywhere for a job".

A student who had worked in a marketing co-op work placement said, "I feel more confident dealing with the public, whether it be on the phone or in person. Also I feel I can work better now on my own (if I'm left in charge). I have more knowledge about the work place: punctuality is very important, and efficiency is always called for in a job even though some days there is more of a work load than others. Deadlines and accuracy are very important."
Another student who had done his cooperative education work with a police force said, "I have learned to be considerate to other people. I have also learned to be assertive in relationships, not aggressive. This experience increased my ambition to become a police officer, and it has given me a bigger overview of life".

A student who had worked at a hostel as a childcare worker for her co-op placement said, "Before I started my placement I wasn't sure what I wanted to do or if I even wanted to work with children as a career. I enjoyed my placement as a student childcare worker so much I've decided it is what I want to do. My placement made me feel more self-confident in my ability to relate well with children. I really believe now that I'm good with children and they feel I'm easy to talk to. I enjoy children and want to be able to help them. I'm glad I did my placement there. It taught me how important it is to work within a team and how important communication is with co-workers".
Discussion

Three major variables were studied, including self-esteem, locus of control and work habits. Both quantitative and qualitative measures were examined. Significant differences were observed in self-esteem and work habits, but not in locus of control. The results for each variable have been considered separately.

The co-operative education students’ pre-test scores of self-esteem were significantly different from the English students’. The mean pre-test score for the co-operative education students was 77.06, while the mean score for the English students was only 57.05. Neither group showed a significant change in their self-esteem scores by the end of the semester, though the post-test scores of the co-operative education students remained significantly higher than the English students’.

Coopersmith (1987) noted that a study of 78 students aged 16 to 19 years in California showed that their mean score on the Self-Esteem Inventory was 66.7. The students in the present study who chose to study in the traditional English classroom scored well below that figure, (57.06
initially) while the students who chose to study in the cooperative education mode scored well above that score (77.06 initially). It may be that those students who felt self-confident were more willing to risk trying a different style of learning, while those students who had less self-confidence preferred to stay with the traditional style of learning that they had already experienced.

Interestingly, though, both the anecdotal reports by teachers and students mentioned repeatedly that the students who had completed the co-operative education course had seemed to develop more self-esteem over the semester. One teacher commented on the noticeable difference in really shy students after co-op, while another felt that co-op graduates had a much more positive image of themselves. A better sense of pride was mentioned by one teacher, as was self-confidence. Comments on improved grooming and less self-consciousness also indicate improved self-esteem. The students commented that they felt more confident in their abilities and their choices. These anecdotal reports seem to have picked up changes that the Self-Esteem Inventory did not
record, for both teachers and students noticed an improvement in self-esteem for students who had studied in the cooperative education mode.

The results of this study have been consistent with the results of previous studies in that varying instruments have found varying results when self-esteem has been measured. In this study, Coopersmith's Self-Esteem Inventory (1967) did not reveal an improvement in self-esteem over the five month period, just as Rhode Island's Experienced-Based Career Education Project (EBCE) (1979) found with their student opinion surveys. The anecdotal reports in this study showed that self-esteem did improve, as did the third party evaluation used by the St. Charles Parish School in Louisiana (1977) to compare students in their EBCE program with a control group. The 1984 Meridan Public Schools' Aetna Cooperative Work Experience Project also recorded a slight gain in self-confidence and self-esteem when the Attitude Toward Work Test was administrated. The Personal Skills Map, used by Shaughnessy (1986) and Stressman (1987) showed significantly positive changes in self-esteem.
The increase in self-esteem noted in the anecdotal reports seemed to support the research of Rosenberg (1965). In investigating many of the social conditions associated with enhanced or diminished self-esteem, Rosenberg (1965) found that an effective interpersonal environment was one condition that significantly raised self-esteem for adolescents. Rosenberg (1965) also documented the fact that teenagers are very concerned with what others think of them. Adolescents place a top priority on social relationships. Beane and Lipka (1984) agree with Rosenberg (1965). They found that for adolescents, the social environment has a major influence on self-esteem. Markova (1987) also argued that people live in social worlds, and they gain self-knowledge through practical involvement in their interactions with others.

The instrument used to record changes seems to have influenced the results. The results of the Self-Esteem Inventory seemed to indicate that the students who chose to study in the co-operative education mode were different from those who chose to continue studying in the traditional classroom in some respects initially, but that the co-op students did not significantly increase their
level of self-esteem while involved in co-operative education. However, the anecdotal reports found that self-esteem did increase then.

Nowicki and Strickland (1973) reported that the mean score on their locus of control test was 11.4 for grade 12 males and 12.4 for grade 12 females, with standard deviations of 4.7 and 5.1 respectively. Both groups of students in the present study scored similarly, with mean pre-test scores of 12.97 for the co-op students and 12.60 for the English students. Both groups had slightly lower scores at the end of the semester, which indicated a slightly more internal locus of control. The co-op students had mean scores of 11.97 at the end of the semester, while the English students had scores of 11.78, but this difference was not statistically significant. Over a longer period of time it is possible that a significant difference may have been observed.
Interestingly, the results of this study do not support the results reported by Clark (1979) or Gadzella, Williamson and Ginther (1985). Both of these studies reported that higher levels of self-esteem were positively correlated with a more internal locus of control. Even though the students who were enrolled in co-operative education had significantly higher pre-test scores on the Self Esteem Inventory than the English students, the co-operative education students did not have significantly lower locus of control scores at either testing. Considering the anecdotal reports of increased self-esteem for students after finishing the co-operative education course, significantly lower locus of control scores would have been predicted for those students, but only slightly lower scores were observed, and these scores were observed for the English students also.

Several aspects of students' work habits were observed in this study. Students' mean number of absences from school, along with students' marks, and anecdotal reports all showed significant differences between the students who were studying in the traditional English classroom, and those who were studying in the co-operative education mode. Each of these three areas showed that the
co-operative education students had better work habits than the students in the traditional English course.

The attendance figures showed a significant difference between the two groups. Both groups had a similar number of absences from school in the semester immediately preceding the study. The English students had a mean of 6.22 absences, while the co-operative education students had 8.65 absences. However, there was an outstanding difference in the attendance patterns during the semester when one group was involved in co-operative education. During that semester the co-operative education students reduced their number of absences significantly, but the English students' number of absences increased significantly. During the semester that the students were enrolled in co-op their mean number of absences dropped to 3.13 days, whereas the mean number of absences for the English students rose to a mean of 15.28 days. While the co-operative education students had to report to both their placement for their co-op work, and to their classes for the remainder of the day, the English students simply had to report to their classes at school. For many co-op students, their work placement was not close to school, so getting to class involved a considerable effort. Since
students at this grade level are generally completing three or four credits each semester, many different subject teachers at the school were responsible for recording each individual student's absences. It may be that moving around and changing locations appeals to grade 12 students, or that the students who are in the school all day are more easily tempted to stay away from school. Again, however, the anecdotal reports indicate that both the teachers, students and employers felt that the students who had been involved in co-operative education were more aware of the importance of attendance.

The marks earned by the students in both groups also indicated that the students in the co-operative education course developed better work habits over the semester than those who were studying English in the traditional classroom. Initially, both groups had similar marks. The English students had mean marks of 63.20%, and the co-op students had 63.16%. While the students studying in the traditional English course did not significantly change their marks, the students who completed co-operative education did significantly improve their marks to 69.73%.
These results support those found by Gade and Peterson (1980). They reported that students who were employed in co-operative education programs performed better on measures of school achievement and self-esteem. The Appalachian Maryland EBCE Project Evaluation (Stead and others, 1977) also found that these students exhibited exemplary academic progress and an improved attitude towards education as a result of their program.

Several factors may have helped the co-operative education students to improve their marks. Most students were placed in a co-op work placement in their chosen field, and students who were very unhappy with their original work placement were moved to more suitable placements. The students studying in the traditional English classroom did not have nearly as many opportunities to have as personally pleasing a course of study. One half to two-thirds of the co-op students' marks during the semester that they were enrolled in co-operative education derived from the co-op course, so it is quite possible that their higher marks reflected the fact that they were doing work of their own preference for a good part of each day and that they were being evaluated in a very different way--to a large degree by non-teachers.
As well, the co-operative education students' better attendance likely improved their chances of obtaining higher marks than the English students. With 15.28 days absent during one semester, the English students did well to maintain their previous marks. The co-operative education students who dropped their absences to only 3.13 days, on the other hand, stood a good chance of improving their marks over the semester.

The anecdotal reports of the teachers, students and employers all indicated that the students who had been enrolled in co-operative education had improved their work habits. Several teachers commented on improvements in punctuality and attendance. They noted that the co-op students had a better appreciation of expectations and were more aware of timelines and deadlines. Co-op students were seen to be more mature and more responsible than other students. The employers noted that they would rather hire co-op graduates because they had already acquired more desirable work habits. The co-op students themselves commented that they had learned how important punctuality, efficiency and deadlines were on the job. They said they had learned the importance of communication
and teamwork at work. They felt that their interpersonal
skills had improved. Also their comments showed that they
had learned that their chosen fields could provide success
for them in the future, and for some students, this may
have improved their motivation to succeed at their classes
in school.

The attendance and mark figures, along with the anecdotal
reports in this study do not support the findings of the
1979 third party evaluation of Rhode Island's EBCE
Program. That evaluator felt that there was no
significant increase in career maturity, career knowledge,
or learning attitudes over the three year period of their
program. The results of the present study support the
results of the majority of studies that found co-operative
education to have a very positive influence. Wilson
(1974) noted the positive effect on students' maturity,
and the Work in American Institute (1978) report noted the
personal growth of students, along with the development of
interpersonal skills and career skill development. Winer
and Kane (1983) also found that the employers they
questioned rated co-operative education as an excellent
recruitment tool because of the positive work attitudes
that these students developed. Shaughnessy (1986)
reported that assertion, commitment ethic and interpersonal comfort were three improved areas for co-op students. Stressman (1987) found significant improvements in commitment ethic, time management, decision-making, empathy and drive strength. The improved attendance, marks and also the anecdotal reports in the present study have all supported these findings.

It appears that John Dewey was correct when he stated "in critical moments, we all realize that the only discipline that stands by us, the only training that becomes intuition, is that got through life itself. That we learn from experience, and from books or the sayings of others only as they are related to experience, are not mere phrases" (1915, p. 15). Mortimer Adler, in 1982, similarly said that through experience students would come to understand the responsibilities of work—the attitudes, habits, and constraints of employment. The results of the present study certainly support both of these theorists' positions.
Summary

The present study proposed three null hypotheses to be tested:

H1 That there were no statistically significant differences in self-esteem between students who had studied co-operative education, and students who had not studied co-operative education.

H2 That there was no statistical difference in locus of control between these two groups of students.

H3 That there were no statistically significant differences in the work habits of the two groups of students.

The results of the present study supported one of the null hypotheses, but allows for the other two to be rejected. There was no significant difference found in locus of control for the two groups. However, the differences between the two groups in self-esteem and work habits were apparent. All of the indicators of work habits that were taken showed that the co-operative education students had developed significantly better work habits than the English students. Although the Self-Esteem Inventory showed that the co-operative education students had higher
self-esteem scores than the English students even before they started the program and that they did not improve those scores, the anecdotal reports indicated that those same students had increased their self-esteem.

The Self-Esteem Inventory did not record the changes that were observed in the anecdotal reports. The changes observed in the anecdotal reports may have been too fine, or too specific to be noted by the Self-Esteem Inventory. It may be that it was a combination of various unique, individual factors that led the employers, students and teachers to see an increase in students' self-esteem. An increased level of self-esteem was observed by all three groups in their anecdotal reports.
CHAPTER FIVE

Since the days when ancient Chinese proverbs were written, the value of experiential learning has been praised. However, students in the 1980s still have had few opportunities to practice the knowledge, skills, and attitudes that they have been taught in the traditional classroom. The Ontario Ministry of Education has expected schools to help students obtain the skills and attitudes that will help them succeed in the world of work and feel self-worth. Co-operative education has been considered as an experiential mode of learning that allows students to develop these skills, attitudes and feelings.

Considerable provincial funding has been made available for co-operative education programs. The present study investigated some of the differences observed in students who were studying in the co-operative education mode compared to those studying in the traditional classroom.

The results of previous studies of co-operative education programs seemed to show generally positive changes in students who were participating in co-operative education.
programs, although some results showing no differences have been reported in the literature. Using various instruments, some researchers reported finding positive changes in students' self-esteem, although this was not a consistent finding. No research was found that related locus of control to co-operative education. Several American studies have reported a positive relation between co-operative education and work habits, although in Ontario more research needed to be done to determine the nature of this relationship.

A quasi-experimental research design was used in the present study. Grade twelve English students were compared to co-operative education students on measures of self-esteem, locus of control and work habits. The Coopersmith (1967) Self-Esteem Inventory, the Locus of Control Scale by Nowicki and Strickland (1973), along with attendance and marks records, and anecdotal reports of students, teachers and employers were all considered.

Several differences were observed between the two groups. The pre-tests using the Self Esteem Inventory showed that students who had chosen to study co-operative education had significantly higher scores of self-esteem than the
English students before the program even began. The Self Esteem Inventory post-test recorded no significant difference in either group's self-esteem after five months of involvement in either program. However, anecdotal reports indicated that the co-operative education students had higher levels of self-esteem after co-operative education. The pre-tests and post-tests of locus of control showed no significant differences between the two groups at either time and no significant change for either group over the five month period. The measures of work habits showed that the students who had been enrolled in co-operative education significantly improved their attendance, their marks and their work habits, while the English students' attendance worsened, and their marks and work habits remained the same as they had been.

Conclusions

The ancient Chinese proverb writers, along with such other notable writers as John Dewey (1915) and Mortimer Adler (1982) were correct when they praised the value of experiential learning. This study has shown that students who study in the co-operative education mode have
developed skills and attitudes that students studying in the traditional classroom have not yet learned. They have not only had a chance to practice the specific skills required in the job that they were doing, but they have also learned the work ethic attitudes expected on the job. Their successful experience in the work world has given them confidence in their abilities, but it has also taught them responsibility. Co-operative education teaches students how important it is to be at your job, on time, and doing your very best. Somehow, students studying in the traditional classroom do not seem to have learned these skills and attitudes to the same extent at this point.

This study has shown that co-operative education has helped students to obtain several of the goals expected by the Ontario Ministry of Education. One of the goals of education has been to help students "acquire skills and attitudes that will lead to satisfaction and productivity in the world of work" (O.S.:I.S., 1984, p.3). Another has been to help students to "develop a feeling of self-worth" (O.S.:I.S., 1984, p.3). The results of this study indicate that co-operative education had been a positive influence for students to achieve both of these goals.
Recommendations

In light of these findings, students, parents, educators and the community need to be made aware of the success of co-operative education programs. The additional funding that the Ontario provincial government, local boards of education and individual schools have put towards developing co-operative education programs has most likely been money wisely spent. The results of this study have shown that the 'gut feeling' that co-operative education has been very beneficial for students is correct. Once again, though, the strongest evidence for this is anecdotal.

Additional research may uncover more exactly how self-esteem and work habits develop in co-operative education students. But at present, it seems that both are developed through co-operative education, while such development is not observed in students in the traditional classroom. Because of this, co-operative education programs need to be widely promoted in all secondary schools, to all students, and students need to be
encouraged to participate in them. Those who have been involved in co-operative education have seen its benefits, but all students deserve to experience its successes.
Bibliography


Winer, E. N. & Kane S. M. (1983). "Employer evaluation of high school work experience programs". *Journal of Co-operative Education*, 20, 1, Fall, 35-44.


Coopersmith Inventory

Stanley Coopersmith, Ph.D.
University of California at Davis

Please Print

Name __________________________ Age __________

Institution __________________________ Sex: M __ F__

Occupation __________________________ Date _________

Directions

On the other side of this form, you will find a list of statements about feelings. If a statement describes how you usually feel, put an X in the column "Like Me." If a statement does not describe how you usually feel, put an X in the column "Unlike Me." There are no right or wrong answers. Begin at the top of the page and mark all 25 statements.
<table>
<thead>
<tr>
<th>Like Me</th>
<th>Unlike Me</th>
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<tr>
<td>1. Things usually don't bother me.</td>
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<td>2. I find it very hard to talk in front of a group.</td>
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<td>3. There are lots of things about myself I'd change if I could.</td>
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<td>4. I can make up my mind without too much trouble.</td>
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<td>5. I'm a lot of fun to be with.</td>
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<td>6. I get upset easily at home.</td>
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<td>7. It takes me a long time to get used to anything new.</td>
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<td>8. I'm popular with persons my own age.</td>
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<td>9. My family usually considers my feelings.</td>
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<td>10. I give in very easily.</td>
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<td>11. My family expects too much of me.</td>
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<td>12. It's pretty tough to be me.</td>
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<td>13. Things are all mixed up in my life.</td>
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<td>14. People usually follow my ideas.</td>
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<td>15. I have a low opinion of myself.</td>
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<td>16. There are many times when I would like to leave home.</td>
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<td>17. I often feel upset with my work.</td>
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<td>18. I'm not as nice looking as most people.</td>
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<td>19. If I have something to say, I usually say it.</td>
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<td>20. My family understands me.</td>
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<td>21. Most people are better liked than I am.</td>
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<td>22. I usually feel as if my family is pushing me.</td>
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<td>23. I often get discouraged with what I am doing.</td>
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<td>24. I often wish I were someone else.</td>
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<td>25. I can't be depended on.</td>
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Locus of Control Scale
by Stephen Nowicki, Jr.,
and B. Strickland

Here are the directions Drs. Nowicki and Strickland include with their scale:

We are trying to find out what men and women think about certain things. We want you to answer the following questions the way you feel. There are no right or wrong answers. Don't take too much time answering any one question, but do try to answer them all.

One of your concerns during the test may be, "What should I do if I can answer both yes and no to a question?" It's not unusual for that to happen. If it does, think about whether your answer is just a little more one way than the other. For example, if you'd assign a weighting of 51 percent to "yes" and assign 49 percent to "no," mark the answer "yes." Try to pick one or the other response for all questions and not leave any blank.

Mark your responses to the question on the answer sheet in the next column. When you are finished, turn the page to score your test.

<table>
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1. Do you believe that most problems will solve themselves if you just don't fool with them?
2. Do you believe that you can stop yourself from catching a cold?
3. Are some people just born lucky?
4. Most of the time do you feel that getting good grades meant a great deal to you?
5. Are you often blamed for things that just aren't your fault?
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
8. Do you feel that if things start out well in the morning it's going to be a good day no matter what you do?
9. Do you feel that most of the time parents listen to what their children have to say?
10. Do you believe that wishing can make good things happen?
11. When you get punished does it usually seem it's for no good reason at all?
12. Most of the time do you find it hard to change a friend's opinion?
13. Do you think that cheering more than luck helps a team to win?
14. Did you feel that it was nearly impossible to change your parents' minds about anything?
15. Do you believe that parents should allow children to make most of their own decisions?
16. Do you feel that when you do something wrong there's very little you can do to make it right?
17. Do you believe that most people are just born good at sports?
18. Are most of the other people your age stronger than you are?
19. Do you feel that one of the best ways to handle most problems is just not to think about them?
20. Do you feel that you have a lot of choice in deciding who your friends are?
21. If you find a four-leaf clover, do you believe that it might bring you good luck?
22. Did you often feel that whether or not you did your homework had much to do with what kind of grades you got?
23. Do you feel that when a person your age is angry at you, there's little you can do to stop him or her?
24. Have you ever had a good-luck charm?
25. Do you believe that whether or not people like you depends on how you act?
26. Did your parents usually help you if you asked them to?
27. Have you felt that when people were angry with you it was usually for no reason at all?
28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?
29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?
30. Do you think that people can get their own way if they just keep trying?
31. Most of the time do you find it useless to try to get your own way at home?
32. Do you feel that when good things happen they happen because of hard work?
33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?
34. Do you feel that it's easy to get friends to do what you want them to do?
35. Do you usually feel that you have little to say about what you get to eat at home?
36. Do you feel that when someone doesn't like you there's little you can do about it?
37. Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you were?
38. Are you the kind of person who believes that planning ahead makes things turn out better?
39. Most of the time, do you feel that you have little to say about what your family decides to do?
40. Do you think it's better to be smart than to be lucky?