



An analysis of faculty members and employers ratings on non-technical employment and attitudinal characteristics of cooperative education students in the western region of the united states
by Ronald R Harris

A thesis submitted in partial fulfillment of the requirements for the degree of DOCTOR OF
EDUCATION
Montana State University
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Abstract:

This study compared faculty and employer ratings in the areas of non-technical employment qualities and attitudinal characteristics of co-op education students in the western region of the country. The influence selected demographic characteristics have upon faculty and employer responses was also examined.

Faculty members and employers defined as supportive of cooperative education were surveyed in the Spring of 1981 using a survey developed at Utah State University. For this study, the reliability of the survey instrument was found to be .791. A Chi-Square Test of Independence was utilized to analyze the data. All eight hypotheses were tested at the .05 level of significance.

When looking at faculty or employer affiliation, eight non-technical employment qualities were found significant. These were: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; create a positive first impression when meeting others; and cope with change and new procedures on the job. For time affiliated with the program, three faculty ratings of non-technical employment qualities were found significant: follow instructions which are given; take criticism when shown what has been done incorrectly; and support the concept of the free enterprise system. The employer rating found significant was: use the telephone in a businesslike manner. The investigation of faculty members' ratings of non-technical employment qualities as related to discipline found nine ratings significant. In looking at ratings according to longevity of the co-op program, seven faculty ratings and one employer rating were found significant. An examination of ratings of attitudinal characteristics according to affiliation found eleven of the 30 characteristics significant. These were: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable. In examining time affiliated with the program, the two faculty ratings of ambitious and religious were found significant while employers' rating of independent was found significant. The investigation of faculty members' ratings as related to discipline area found 21 attitudinal characteristics significant. In looking at ratings according to longevity of the co-op program, four faculty ratings and three employer ratings were found significant.

AN ANALYSIS OF FACULTY MEMBERS' AND EMPLOYERS' RATINGS ON NON-TECHNICAL
EMPLOYMENT QUALITIES AND ATTITUDINAL CHARACTERISTICS OF COOPERATIVE
EDUCATION STUDENTS IN THE WESTERN REGION OF THE UNITED STATES

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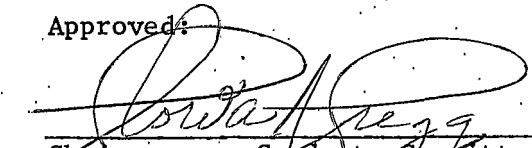
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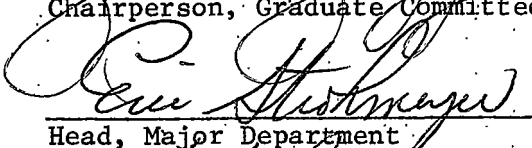
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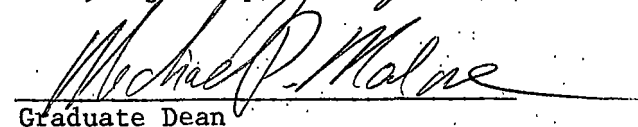
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ABSTRACT

This study compared faculty and employer ratings in the areas of non-technical employment qualities and attitudinal characteristics of co-op education students in the western region of the country. The influence selected demographic characteristics have upon faculty and employer responses was also examined.

Faculty members and employers defined as supportive of cooperative education were surveyed in the Spring of 1981 using a survey developed at Utah State University. For this study, the reliability of the survey instrument was found to be .791. A Chi-Square Test of Independence was utilized to analyze the data. All eight hypotheses were tested at the .05 level of significance.

When looking at faculty or employer affiliation, eight non-technical employment qualities were found significant. These were: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; create a positive first impression when meeting others; and cope with change and new procedures on the job. For time affiliated with the program, three faculty ratings of non-technical employment qualities were found significant: follow instructions which are given; take criticism when shown what has been done incorrectly; and support the concept of the free enterprise system. The employer rating found significant was: use the telephone in a businesslike manner. The investigation of faculty members' ratings of non-technical employment qualities as related to discipline found nine ratings significant. In looking at ratings according to longevity of the co-op program, seven faculty ratings and one employer rating were found significant. An examination of ratings of attitudinal characteristics according to affiliation found eleven of the 30 characteristics significant. These were: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable. In examining time affiliated with the program, the two faculty ratings of ambitious and religious were found significant while employers' rating of independent was found significant. The investigation of faculty members' ratings as related to discipline area found 21 attitudinal characteristics significant. In looking at ratings according to longevity of the co-op program, four faculty ratings and three employer ratings were found significant.

CHAPTER I

Introduction

In the 400 year history of the colonies and the United States, education has undergone numerous changes. The changes have come slowly at some times, more rapidly at others. One of the most significant changes that has come about in the twentieth century began with an attempt to bring relevancy to an engineering curriculum. This attempt began as a program and then blossomed into a movement. The movement was entitled cooperative education. Cooperative education (used interchangeably with the term co-op education) is a program that integrates classroom theory with practical work experience. Students in the co-op program have regularly scheduled periods in school and periods of employment in industry.

Cooperative education at the post-secondary level has served as an important transition mechanism between education and employment for hundreds of thousands of students. Since its inception in 1906 at the University of Cincinnati, post-secondary cooperative education has come to be embodied in programs in four-year colleges and universities, two-year comprehensive community colleges and technical institutes. In 1977, 1,200 colleges and universities in North America participated in co-op programs (Miller, 1977). As the demand has risen for trained workers, federal funding has increased in order to provide support for programs that would aid in the transition from education to employment.

The linkage of work experience and academic study has expanded beyond the preparation of technicians for occupations in engineering and scientifically related fields. The ensuing diversification has resulted in co-op education programs being implemented in basically all of the post-secondary general curriculum offerings at two- and four-year institutions of higher education. The growth of co-op education, it has been noted, is ". . . conditioned upon demonstrated values--values to the student, to the employer, to the educational institution, and to the community" (Heerman, 1973).

Background and Significance of the Problem

Psychologists, sociologists, and educators have all expressed varying degrees of concern about the way in which the work ethic has changed in the United States. Donald E. Super, who has written extensively in the area of work values, has observed that not only are values reflected in work, but work is affected by values. Super says: "There is ample observational and case material to show that those engaged in an occupation tend either to adapt to it or to shift to more congenial types of work" (Super, 1970). Work has been recognized for its value to the process of social interaction (Hall, 1975), the activation of role-playing (Super, 1957), and the manner in which individuals satisfy their needs (Super, 1970).

Co-op education proponents are quick to stress the numerous values resulting from the co-op education program. Many of the values alluded to are, by their very nature, intangible. Maturity, personality development, attitudes and qualities that make for a good employee, such as well-dressed, punctual and cooperative, are addressed in the literature of occupational skill development and vocational competency. How important are these and other similar non-technical values to employers who are hiring, and faculty members who are providing the training for students?

The dichotomy that has existed between the world of work and the classroom is one that has been well documented. This dichotomy prompted Willard Wirtz in 1975 to state, "There are not two worlds--education and work--one for youth, the other for maturity. There is one world--Life" (p. 36). The implication is that the values derived from each should have a close congruence. These are values that should manifest themselves in employment qualities that are deemed important by both the educational institution sponsoring the student and the employer hiring the student. How close a congruence is there between these two bodies?

Statement of the Problem

The major problem of this study was to compare faculty and employer ratings in the areas of non-technical employment qualities

and attitudinal characteristics of co-op education students in the western region of the country. In addition, this study examined the influence selected demographic characteristics have upon faculty and employer responses.

Questions Answered

The study provided answers to the following questions:

1. Do faculty members and employers differ on their ratings of non-technical employment qualities?
2. Is there a difference in the ratings of non-technical employment qualities between employers and faculty members who have been working with co-op students and programs 0-2 years, 3-5 years, 6-8 years and 9 years or longer?
3. Is there a difference in the ratings of non-technical employment qualities between faculty members who teach and coordinate in Social Sciences, Sciences, Business, and Humanities?
4. Is there a difference in the ratings of non-technical employment qualities between faculty members and employers in those institutions which have had a co-op program for 0-2 years, 3-5 years, 6-8 years and 9 years or longer?
5. Do faculty members and employers differ on their rating of attitudinal characteristics?

6. Is there a difference in the ratings of attitudinal characteristics between faculty members and employers who have been working with co-op students and programs 0-2 years, 3-5 years, 6-8 years and 9 years or longer?

7. Is there a difference in the ratings of attitudinal characteristics between faculty members who teach and coordinate in Social Sciences, Sciences, Business and Humanities?

8. Is there a difference in the ratings of attitudinal characteristics between faculty members and employers in those institutions which have had a co-op program for 0-2 years, 3-5 years, 6-8 years and 9 years or longer?

Definition of Terms

Cooperative education. A structured work experience that integrates classroom theory with the world of work.

Cooperative education program. "The integration of classroom theory with practical experience under which students have specific periods of attendance at college and specific periods of employment" (Collins, 1973).

Attitudinal characteristics. "A relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner" (Rokkeach, 1968).

Parallel cooperative education program. That program which involves the student going to class for one part of the day and working on a related job during another part of the day.

Alternating cooperative education program. That program which involves the student attending class one quarter/semester and working on a related job the next quarter/semester. Co-op education usually involves a minimum of two such alternating periods of employment.

Non-technical employment qualities. Personal standards of performance which are not specific skill requirements for a job.

Purpose of the Study

The study determined whether there were significant differences between faculty members and employers who are supportive of co-op education in terms of the areas of non-technical employment qualities and attitudinal characteristics for co-op education students. In addition, the influence of selected demographic characteristics on faculty and employer responses was also examined. This study provides information for teachers and educational administrators regarding the non-technical employment qualities and attitudinal characteristics employers deem to be important for entry-level employment positions. Likewise, employers are appraised of the extent to which the non-technical employment qualities and attitudinal characteristics they consider important are shared by faculty members.

Contribution to Educational Theory

The increased emphasis on co-op education in post-secondary educational institutions throughout the United States has not been without its difficulties. Developing suitable models for co-op education that fit an institution's philosophy and mission is of particular significance. Heermann (1973) describes the various approaches taken by community colleges which are attempting to develop a suitable model that is in keeping with their institutional mission and philosophy. In doing so, Heerman (1973) indicates there are certain basic elements of educational philosophy found in varying degrees in secondary, two-year, senior college and university programs. A review of the elements points to a need for an analysis of faculty attitudes toward non-specific, non-technical employment qualities.

Holden and Herrell (1975) suggested several questions that an institution should ask in analyzing the feasibility of a co-op education program. Among the questions were:

What support has been given by the faculty? Some teachers just don't like co-op education and it has slim chances without academic support (p. 75).

A comparison of faculty ratings of non-technical employment qualities and attitudinal characteristics and employers' ratings of these qualities serves as an important link in measuring faculty support or lack of such support.

Since Knowles (1971) maintained that "resistance to change is inherent in our educational system," this study contributes to the body of knowledge in the co-op education field that deals with successfully implementing a co-op education program. Medsker (1960) stated that ". . . teachers and administrators in any type of college inevitably influence, by their attitudes, the nature and quality of the program" (p. 141).

This study identified areas in which faculty members and employers agree as well as disagree. The areas of disagreement may result in conflict unless actions are pursued by cooperative education proponents to alleviate the conflict. Solving these conflicts should affect the quality of cooperative education programs in a positive manner.

General Procedures

William Neal, associate professor of Business Education at Utah State University, developed a survey entitled Non-Technical Employment Qualities for Cooperative Education Students. This survey, developed in 1978, as part of a funded research project, was built using a Likert scale, and is divided into two sections of thirty questions each. The first thirty questions deal with reactions (by rating) to statements about specific, non-technical employment characteristics. The second set of thirty questions deals with a

reaction (by rating) to a single word description for a particular attitude or characteristic that the student should possess upon entry to the job training station. This survey instrument was utilized for methods of comparison in this study.

Reliability of the survey instrument was measured utilizing the test-retest method. The survey was sent to ten (10) faculty members and ten (10) employers outside of the states being surveyed. Approximately two weeks later the survey was sent to the same ten (10) faculty members and ten (10) employers. The two groups of responses were then correlated item by item to establish reliability of the instrument.

The selection of the population was made in the following manner. All post-secondary directors of co-op education in the states which comprise the Western Association of Cooperative Work Experience Educators (Alaska, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming) were written a letter and asked to supply the following:

1. The names of five faculty members supportive of cooperative education, and
2. The names of five employers who are supportive of cooperative education.

The survey, along with a cover letter and color-coded response envelope, was sent to all individuals from each group. Two weeks later a follow-up letter was sent to all non-respondents asking them to complete the survey. An 80% return rate from all respondents was established for this study.

The demographic data obtained from the survey was summarized descriptively and the hypotheses were tested utilizing the Chi-Square Test of Independence.

Limitations and Delimitations

The study was limited in the following ways:

1. The study was limited to post-secondary institutions and employers that were within the geographical scope of the Western Association of Cooperative Work Experience Educators. Included were the states of Alaska, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. Only those institutions that received federal funding for the implementation, strengthening or expansion of cooperative education supplied names of employers and faculty members for survey purposes.

2. The employers and faculty members surveyed were identified by each of the post-secondary directors of cooperative education in the Northwest region. The major criteria for selection was that

the faculty members and employers must be clearly identified as supportive of cooperative education as defined in numbers 3 and 4 below.

3. The employers selected by the directors of cooperative education in the Northwest region were required to have the following characteristics:

- a) They must have had at least one student working in a cooperative arrangement within the past nine months.
- b) They must have had the student in a cooperative education training station a minimum of ten hours per week on a parallel cooperative arrangement or one complete quarter if on the alternating basis.

Employers meeting the two aforementioned criteria (a and b) were considered supportive of co-op education. Employers who are supportive of cooperative education often have students in a co-op working arrangement. The criteria for federal funding of co-op education programs allude to the necessity of employer support in order for co-op programs to be successful. One of the measures of employer support is a willingness to supervise, train and evaluate a co-op student. In addition, supportive employers might participate on advisory committees or offer assistance in being available for panels and for addressing career classes. Active support would hinge on

whether or not the employer has been involved in a working arrangement with the student within the immediate past or the present.

4. The faculty members selected were required to meet the following characteristics:

- a) They must have been teaching at least half-time (.50 FTE).
- b) They must have taught at the post-secondary institution at least one year.
- c) They must not have been directly compensated by the Cooperative Education Office.
- d) They must have demonstrated a willingness to support the co-op program in its philosophy and modus operandi.

Faculty members meeting the aforementioned four criteria (a, b, c and d) were considered supportive of co-op education. Faculty members who are supportive of co-op education often demonstrate to the director a willingness to help with the various aspects of program management, including but not limited to supervision and grading of students. Faculty members' support, a requirement for federal funding, can also be indicated by a willingness to serve on faculty advisory committees for co-op as well as volunteer time to counsel with individual students.

Summary

Within the past twenty years there has been a significant move in higher education toward providing a mechanism for the integration of classroom theory with practical work experience. One of the vehicles chosen for this purpose by educational institutions and supported by the U. S. Office of Education has been a program entitled Cooperative Education, a program first begun in 1906 at the University of Cincinnati. This study determined whether there were significant differences between faculty members and employers who are supportive of co-op education in terms of the area of non-technical employment qualities and attitudinal characteristics for co-op education students. The influence demographic characteristics have upon faculty and employer responses was also studied.

The survey utilized in this study was developed at Utah State University.

The study surveyed faculty members and employers identified by directors of cooperative education. Reliability of the instrument was verified utilizing the test-retest method. The demographic data was summarized descriptively while the statistical analysis of the hypotheses was performed utilizing the Chi-Square Test of Independence.

CHAPTER II

Review of Literature

Since its inception in 1906 under Herman Schneider of the University of Cincinnati, co-op education has gained acceptance as an instructional device of value and potential. However, there are still segments of the university community who are unfamiliar with either the current status or historical origins of the movement. This review of literature will trace the historical highlights in the development of the co-op education movement, attitude and perception as related to co-op education, and change theory as related to implementing a new idea.

Historical Development of Cooperative Education

It is widely recognized that the University of Cincinnati established the first cooperative education program in 1906. The program, designed by Dr. Herman Schneider, was for engineering students who alternated periods of several weeks of work with study (Robinson, 1969). Northeastern University adopted the University of Cincinnati model in 1920, followed a year later by Antioch College. Antioch's program, however, was not limited to engineering, but also included the liberal arts curriculum (Hunt, 1974). In 1933, Riverside Junior College, California, became the nation's first junior college to establish a co-op program. Included were programs in architecture, business, engineering, nursing and library work (Barbeau, 1974).

Robert Auld (1971) summarized the status of co-op education in the first twenty years of its existence by stating:

In the space of its first twenty (1906-26) years the cooperative movement had become an accepted and valued part of higher education in the United States (p. 16).

From 1926 to the beginning of World War II, almost one school per year initiated cooperative education programs. By 1942, there were approximately 20 institutions offering co-op education programs. A notable event during this time was the founding of a division by the American Society for Engineering Education (ASEE) to deal specifically with cooperative education. Founded in 1930, it was called the Cooperative Education Division (CED).

After World War II, co-op education continued its expansion. Two to three schools per year began new programs in co-op education. Providing the impetus for the expansion was Public Law 78-346, June 22, 1944 (G.I. Bill). Aiding further in the expansion after World War II was the doctrine of co-op education published by the Committee on Aims and Ideals of Cooperative Engineering Education. Entitled "The Cooperative System--A Manifesto," this document became the official doctrine of the Cooperative Education Division (CED) of the American Society of Engineering Education (ASEE). Included in the manifesto were the following five Specific Aims of the Cooperative Method:

1. To impart first-hand an actual knowledge of an experience with the execution in industry of engineering designs, projects and development.

2. To impart understanding of and familiarity with the problems and the viewpoints of working men and women.

3. To assist students, by direct and personal experience in industry, to test their aptitude for engineering careers.

4. To enable engineering students to adjust themselves to engineering employment by gradual and easy transition from academic pursuits and mode of life to the requirements and conditions of industry.

5. To train and otherwise prepare students especially and directly for the administrative and operating functions which, to a greater or less degree, enter into most engineering careers (Freund, 1946).

In 1963, the National Commission on Cooperative Education was founded to provide a unified national voice for the movement. In 1964 the Cooperative Education Association was formed to provide a forum for all types of co-op education. According to Woolridge (1964), there were "70 colleges and universities offering cooperative education programs to more than 30,000 upper class students by the end of 1964" (p. 66).

Beginning in 1964 and continuing to the present, cooperative education has expanded very rapidly. During the time span 1964-74, for example, 300 institutions added cooperative education programs (Collins, 1973). The Directory of Cooperative Education compared three different time spans:

1906-1942	20 institutions in 36 years
1943-1962	50 institutions in 20 years
1963-1972	300 institutions in 10 years (Collins, 1973)

In addition to the number of institutions participating, student enrollments have also grown dramatically. According to a 1975 study, 125,271 students at 575 universities were participating in cooperative education (Brown and Wilson). Currently there are in excess of 200,000 (Moye, 1979).

Throughout its 74-year history, cooperative education has kept at the forefront of the movement the basic concepts outlined by Dr. Herman Schneider. In 1961, these concepts were summarized in a massive study conducted by Wilson and Lyons entitled Work-Study College Program: Appraisal and Report of the Study of Cooperative Education.

In this study, Wilson and Lyons stated:

Cooperative education is the plan which integrates classroom experience and practical work experience in industrial, business, government or service-type work situations. The work experience constitutes a regular and essential element in the educative process, and some minimum amount of work experience and minimum standards of performance are included in the requirements of the institution for a degree. In addition, there must be liaison between the administration of the institution and the employers. The essential criteria are that the work experience be considered an integral part of the educational process, and that the institution take a definite responsibility for this integration (1961, p. 8).

As can be noted, the history of cooperative education has been inextricably linked to growth in the number of programs as well as the number of student participants. The federal government has increasingly supported the co-op program, encouraging post-secondary

institutions to become involved in implementing new programs and strengthening existing ones.

Attitudes and Perceptions in
Cooperative Education

According to Stalcup (1968), an attitude can be defined as "a tendency (learned) to react in a certain manner toward tangibles and intangibles" (p. 177). Oppenheim (1966) indicates that attitudes are always present, although not necessarily active. Attitudes subsequently become apparent when the individual is confronted with a questionnaire aimed at measuring his attitude.

According to Roberts (1976), there is a distinct relationship between attitudes and perceptions.

Attitudes presuppose perception, of course. Perception is difficult to define, particularly as it pertains to this study. For example, if a number of individuals are queried regarding length of the segments of the broken line in the middle of a highway, their answers (probably perceptions unless they are civil engineers) might range from a foot and a half to eight feet. Respondents would be aghast to discover that each segment is approximately 15 feet in length. If the question is asked of a single individual in a moving automobile, his perceptions vary depending upon speed of the vehicle at the time the question is asked. The faster the speed, the shorter the segments are perceived to be (p. 5).

Perception, therefore, according to Roberts, is a relative phenomenon.

A part of his study involved the development of an instrument called Attitudes Toward Career Education which was used to measure "Attitudes toward the five areas of concern, i.e., curriculum development, fiscal

policy, evaluation, grade level and teacher education--as each pertains to Career Education (1976, pp. 6-7).

Measurement of attitude and perception in cooperative education has been a part of a number of different studies. In his study Cooperative Education as Perceived by Administrators and Teaching Faculty of Technical Programs in Texas Public Two-Year Postsecondary Educational Institutions, Benson (1977) compared the attitudes of administrators and instructors toward cooperative education and toward technical education curricula that include integrated cooperative education plans. According to Benson, technical program administrators and instructors have a favorable attitude toward an integrated cooperative plan for students. In addition, Benson (1977) noted that "the attitudes of some technical program instructors from both urban and rural, single campus community colleges are in less accord with the values of cooperative education and cooperative plans than those from larger, urban, multi-campus comprehensive community colleges" (p. 96).

Another survey in 1973 found that liberal arts faculty were dissatisfied with co-op education and had a preference for giving academic credit for the experience. Engineering faculty, on the other hand, did not want to award credit, but felt co-op education had a significant value in the education process (Pratt, 1974).

In attempting to measure the attitudes and perceptions of eleventh grade students in a co-op education plan, Wright (1977) studied the effect of part-time employment and nonemployment on the variables of vocational maturity and job involvement. Wright's study demonstrated that a semester of cooperative education did not produce a significant change in the vocational maturity or job involvement of the participants (pp. 83-84). The Job Involvement Scale and the Career Maturity Inventory which were administered by Wright did not detect a significant relationship between students' attitudes toward vocational maturity and job involvement.

A study completed in 1972 concluded that participation in a cooperative education program for one year failed to enhance certain behavioral and personality dimensions of students under consideration (Sawyer). Utilizing pre-tests and post-tests of the California Psychological Inventory (CPI) and the Vocational Development Inventory (VDI) the results of the Sawyer study indicated that participation in a cooperative education program failed to enhance the development of:

1. Six personality characteristics associated with measures of poise, ascendancy, and self-assurance;
2. Six personality characteristics associated with measures of socialization, maturity, and responsibility;
3. Three personality characteristics associated with measures of achievement potential and intellectual efficiency;
4. Three personality characteristics associated with measures of intellectual and interest modes; and,

5. Vocational maturity as enhanced by the Vocational Development Inventory (1977, p. 78).

While the measurement of attitude is not specifically mentioned in this study, the characteristics studied must, of necessity, involve the measurement of attitude.

Like Sawyer, Gass (1977) studied participants and non-participants in a cooperative education program. The study, done on high school graduates in the hospitality industry, concluded that employee performance ratings of cooperative education students by their employer and job satisfaction scale average score "were not significantly higher at an .05 level than those of non-cooperative education students" (p. 107). The job performance ratings of employers consisted of such factors as quality and quantity of work, aptitude, initiative, adaptability, work relations, dependability, capacity for advancement, overall performance and personal habits (Gass, 1977). Couey (1977) reached similar conclusions as Gass in a study completed at Auburn University. His study, comparing cooperative program participants with randomly-selected non-participating senior engineering students, failed to identify any statistically significant difference in responses of the two groups in 14 out of 15 work value variables of the Work Values Inventory. Couey concluded that "engineering students at Auburn University exhibited rather homogenous work values whether or not they had participated in

cooperative education" (p. 74). Work values on the inventory include the following topics: altruism, esthetics, creativity, intellectual stimulation, achievement, independence, prestige, management, economic return, security, human relations, surroundings, associates, way of life and variety. The only one demonstrating significant statistical difference was independence. However, Rowe and Linler (1971) found that as students have more work experience, the more satisfied they are with their jobs. In another study, conducted exclusively on education majors, it was found that females were "far more satisfied with their work experience than were males" (Wines, 1973, p. 48).

In a study to determine the difference in perceptions among students, faculty, and employers regarding a co-op education program, Wadsworth (1976) found that faculty, employers and non-cooperative education students were not as aware of co-op education variations in work patterns as were co-op education participants. While all groups favored the concept of co-op education, the various groups learned about co-op education in different ways. In comparing the two groups, Wadsworth found that co-op education students worked longer hours, were more into their major field, carried more credits at the same time and had a higher grade point average than non co-op education students. The University of Houston conducted an employer attitude and policy survey in 1973. Results from the survey indicated that co-op education did not get strong endorsement and support from the

top management, co-op education students did not receive fringe benefits and co-op education was utilized by employers primarily as a tool for reducing the attrition rate of talented well-educated personnel (Slusher, 1973).

Further studies were conducted in the realm of student attitudes regarding cooperative education at the University of South Florida (Lentz and Seligsohn, 1968). The College Student Questionnaire published by the Educational Testing Service was administered to co-op and non co-op students. The questionnaire measured the following categories:

1. Satisfaction with faculty
2. Satisfaction with administration
3. Satisfaction with major
4. Satisfaction with students
5. Study habits
6. Extracurricular involvement
7. Family independence
8. Peer independence
9. Liberalism
10. Social conscience
11. Cultural sophistication

The analysis of the data revealed that the only significant difference was in the area of "Satisfaction with Faculty." In this

category, cooperative education students expressed greater satisfaction.

In a similar study, Baker (1969) compared the personal value preferences of co-op and non co-op students on the fifteen variables of the Edwards Personal Preference Schedule (EPPS). In addition, students were compared on grade point average. The study, conducted on engineering students at Tennessee Technological University at Cookville, Tennessee, found freshmen cooperative and non-cooperative education students homogeneous on 12 of the 15 variables. The twelve variables on which students did not differ were abasement, achievement, affiliation, aggression, autonomy, change, deference, dominance, endurance, exhibition, heterosexuality, and nurturance. On the three variables of intraception, order and succorance, the two groups differed, with the co-op student scoring higher on the first two and the non co-op student higher on the third. In the area of academic excellence, the cooperative education students obtained higher grade point averages than the non co-op students.

Yensco (1977) structured a career status and attainment study of baccalaureate graduates who had participated in co-op programs. The procedure once again employed was a comparison of co-op and non co-op students. Among the findings of the Yensco study were the following:

1. No basic differences appear between co-op and regular graduates in career performance one to two years after the receipt of the bachelor's degree.
2. Cooperative education students do not statistically differ (significantly) in the area of satisfaction with their job.
3. The cooperative education method is supported by the respondents as a vital part of the undergraduate engineering program (p. 113).

A comparison study of co-op graduates versus non co-op graduates was performed at Langley Research Center of the National Aeronautics and Space Administration in 1970. The conclusion of the study was that the cooperative students outperformed non co-op students in three areas: rate of advancement, lack of turnover, and awards for outstanding performance (Jarrell, 1974). Gore (1972) completed a cooperative education study of the full-time student versus the co-op student. Gore's study showed that at the time of graduation the co-op student does not have monetary or positional advantage over the full-time student.

From the student interview perspective, two studies were conducted at Northeastern University. The first focused exclusively on females, and the second dealt only with males (Kany, 1973). The two studies, comparatively speaking, found that males had a tendency to select a wider choice of fields. In addition, it was reported that both sexes loosened their gender role restriction in work situations.

Change Theory as Related to
Implementation of a New Idea

The process of change at the post-secondary level is a highly complex one that involves solving a variety of problems simultaneously. Numerous instances can be cited in which educational institutions have launched well-intentioned innovative programs, only to have them fail. Gross (1971) systematically examined an attempt to institute a major change in an urban school. The study, which recorded the dynamics and outcomes of an innovation that was designed to redefine the role of the school teachers was abandoned seven months after it was introduced. The findings of the study demonstrated that the director's management of the innovation had two fundamental flaws: 1) No consideration was given to the kinds of obstacles that teachers could be expected to encounter; and 2) No attempt was made to establish monetary feedback mechanisms to trace the dynamics of the innovation (Gross, 1971).

As demonstrated in the Gross study (1971), the intellectual tools (perspective, knowledge, assumptions, and conceptual schemes) that educators bring to bear in a situation requiring change, impact significantly on the change effort. In addition, analysts of change efforts have identified a number of circumstances that have been contributing factors to the failure of educational change efforts.

Herriott and Gross (1979) point out eight factors:

1. Failure to diagnose problems properly;
2. Failure to anticipate or resolve implementation problems;
3. Ad hoc approach to educational innovation;
4. Uncritical acceptance of existing innovations;
5. Absence of monitoring and feedback mechanisms;
6. Inadequate planning;
7. Absence of teacher and community participation;
8. Absence of leadership (pp. 25-30).

Resistance to change is widespread. Argyle (1967) described the formulation of organizational change:

In the first place, there is usually resistance to change of any sort....In social organizations patterns become established and are of great stability because individuals work out drive-reducing ways of adapting and fear that any change will be to their disadvantage in some way. Changes in industry are resisted by workers because they are afraid that they will be paid less or will have to work harder to earn the same amount. Wage-incentive schemes have often floundered for this reason. Changes are resisted by managers because they are afraid that their position will be weakened somehow or that they will be further from the centers of power. Current changes in prisons are resisted by prison officers and prisoners alike because they have no desire to associate with each other....There is anxiety either about possible material loss or about the disruption of a well-established and satisfying social system (p. 95).

According to the Overcoming Resistance to Change (ORC) Model (Herriott and Gross, 1979), management plays the key role in overcoming the staff resistance outlined above. Management must convince the staff members just prior to, or at the time of, the introduction of the innovation that the innovation is worthy of doing. Argyle (1967)

states:

The main principle here is that subordinates should be persuaded and motivated rather than ordered--so that they actually want to behave in the new way. This persuasive and democratic style means allowing people to take part in discussions and decisions (p. 94).

In cooperative education the emphasis on change and the concomitant involvement by individuals in discussion and decisions is widely recognized. The Institutional Change Model, developed by the Cooperative Education Research Center (1980), stresses participation by faculty, administration, employers, and co-op education staff in initiating a university-wide co-op program. Federal guidelines for funding of co-op education programs emphasize involvement by all affected members of the institution in decision-making and discussion if a co-op education program is ultimately to succeed (Federal Register, 1980). Evans (1976) stated:

Vital to the success of cooperative education programs is the coordination of the various areas of involvement. These areas are as follows:

1. Academic Units (Undergraduate and Graduate)
 - a) Colleges (Academic)
 - b) Departments and/or Division
 - c) Commonwealth Campuses
2. Student Affairs
 - a) Career Development and Placement Center (CDPC) at U.P.

b) Commonwealth Campuses

3. Advisory Committee
4. Students
5. Employers (p. 113).

Evans continued his discussion to indicate that decision-making activities and specific roles should be developed for each of these areas.

Vital to the success of the implementation of a new idea is participation by the affected members in discussion and decision-making. Sound change theory models dictate this, and existing co-op programs validate it. In addition, information must be available so that each of the affected members "obtains a clear understanding of the proposed innovation" (Herriott and Gross, 1979). Research information which will validate expectation levels on behalf of employers and faculty members (such as outlined in this study) would aid immeasurably in that flow of information. This information, if gathered properly and disseminated in a reasoned fashion would impact on educational change, thereby avoiding the inadequacy of some educational research. To quote Baldrige and Deal (1975):

The profusion of innovation research has not been particularly useful for administrators as they are changing, reforming, or installing new ideas in educational organizations. This gap between the research and administrative action stems from several characteristics of the innovation research: an individualistic perspective tends to ignore the fact that most social inventions are adopted by organizations, not individuals;

there has been a focus on factors that are difficult or impossible for an administrator to control; the policy implications of much innovation research are not spelled out; alternative strategies for change that results from the research are not adequately tested; consultants have discouraged an experimental problem-solving approach by promising simple solutions from their "black bag" of tricks (p. 171).

Summary

The historical development of co-op education demonstrates that in a 74-year period, co-op education has gained a national following at the post-secondary level. From its origin in 1906 with several hundred students participating, it has grown to over a thousand institutions with in excess of 200,000 students enrolling annually in the co-op education program. In addition to the number of institutions participating, the number of disciplines has also increased. While the co-op program began as primarily an engineering offering, today it encompasses virtually all discipline areas in one form or another.

The measurement of attitude and perception in the co-op area has met with mixed results. While there is no overwhelming evidence that co-op significantly affects work values, selection of a career, maturity, job satisfaction, etc., there is likewise no overwhelming evidence that it does not.

The implementation of a new idea has been shown to embody the utilization of sound change theories. Among these are the Overcoming Resistance to Change (ORC) Model, which embodies the principal of

participative discussion and democratic decision-making. Successful co-op education programs have been shown to utilize the same principles.

CHAPTER III

Methods and Procedures

The central problem of this study was to determine the differences between faculty member and employer ratings of non-technical employment qualities and attitudinal characteristics of Cooperative Education students in the western region of the country. In addition, this study examined the influence selected demographic characteristics have upon faculty and employer responses.

In describing the procedures utilized in investigating the problem stated above, Chapter Three is divided into the following methodological areas:

1. Description of the population;
2. Definition of the categories of investigation, including the necessary controls utilized in eliminating contaminating variables;
3. Description of the survey instrument;
4. Methods used in collecting the data;
5. Statement of the statistical hypotheses tested in the null form along with the level of significance used;
6. Statistical methods used for analyzing the data; and
7. Summary of the methods and procedures utilized in the study.

Description of the Population and
Sampling Procedures

The population surveyed included faculty members from post-secondary institutions who were identified as being supportive of co-op education, and employers who were identified as being supportive of co-op education, in the twelve-state region which comprises the Western Association of Work Experience Educators. This area includes the states of Alaska, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The faculty members and employers were identified by contacting cooperative education directors in each of the institutions in the aforementioned states. Each cooperative education director was asked to supply the researcher with a listing of five faculty members and five employers who are supportive of cooperative education. The director was asked to identify only faculty members who: a) have at least a half-time faculty appointment (.50 FTE); b) have taught at a post-secondary institution at least one year; c) are not directly compensated by the Cooperative Education Office; and d) have demonstrated a willingness to support the co-op program in its philosophy and modus operandi. Faculty members meeting the aforementioned four criteria (a, b, c and d) were considered supportive of co-op education. Faculty members who are supportive of co-op education often demonstrate to the director a willingness to help with the various aspects of program management, including but not limited to, supervision and

grading of students. Faculty members' support, required for federal funding, can also be indicated by a willingness to serve on advisory committees for co-op education as well as volunteering time to counsel with individual students. In addition, the director was asked to identify only those employees who: a) have had at least one student working in a cooperative arrangement within the past nine months; and b) have had the student on the job a minimum of ten hours per week on a parallel cooperative arrangement or one complete quarter if on the alternating basis. Employers meeting these two criteria were considered supportive of co-op education. Employers who are supportive of co-op education often have students in a co-op working arrangement. The criteria for federal funding of co-op education programs allude frequently to the necessity of employer support in order for co-op programs to be successful. One of the measures of employer support is a willingness to supervise, train and evaluate a co-op student. In addition, supportive employers might participate on advisory committees or offer assistance by being available for panels and for addressing career classes. Active support would hinge on whether or not the employer has been involved in a working arrangement with the student within the immediate past or the present.

There were fifty-four (54) cooperative education directors contacted during March of 1981, and asked to supply the names of faculty members and employers meeting the previously-described criteria.

Definition of Categories of
Investigation

The Non-Technical Employment Qualities for Cooperative Education Students Survey developed at Utah State University was used in this study. It is based on employment characteristics that employers have identified as desirable for employees. The total number of non-technical qualities identified in the questionnaire was sixty (60). The first thirty questions were identified as non-technical employment qualities. This section consisted of single statements that referred to personal standards of performance. The second section consisted of a single word that described an attitudinal characteristic.

Several contaminating variables could possibly have affected the findings of the study, and therefore an effort was made to control them. First, only those supportive of cooperative education were studied. Non-supportive faculty and employers were not studied due to the differences in approach to education and philosophical considerations. Since cooperative education has as one of its prime goals the preparation of students for entry-level occupations and therefore, is directly concerned with integrating the classroom with practical, applied on-the-job training, the faculty members supportive of such a program would be concerned with different philosophical considerations than those who are not supportive (Mason & Haynes, 1976). Considerations involving the process of total career development as

well as the development of occupationally-related skills are emphasized by supportive faculty (Marland, 1971).

Second, the Northwest Cooperative Education Center has been very active in the training of employers and faculty members in the State of Washington. Therefore, the respondents from this state might tend to distort the findings.

Third, employers who have served in an advisory or formal consultant capacity with the local co-op education program could have distorted the findings. This factor was controlled through surveying the entire population. If employers have acted in this capacity, it may have influenced their attitude toward and knowledge of the non-technical qualities and attitudinal characteristics outlined herein.

Description of the Survey

Instrument

The survey instrument was divided into three sections. The first section contained questions designed to obtain demographic data. Faculty members were instructed to answer all four questions, while employers were instructed to answer numbers 1, 2 and 4. The questions were as follows:

1. Whether the respondent is a faculty member or employer;
2. The length of time the faculty member or employer has been involved in co-op education;

3. The discipline area in which the faculty member teaches;
and

4. The length of time the co-op education program has been
in existence.

The second section of the instrument was composed of thirty (30) statements about non-technical qualities. The employer and/or faculty member was asked to indicate the importance of each quality by using a rating of one, two, three, or four. The rating scale was as follows:

1 = No importance

2 = Limited importance

3 = Important

4 = Extremely important

The third section of the instrument was designed to obtain a rating of thirty (30) single word descriptions of attitudinal characteristics. Each of the thirty words was listed and the faculty member and employer were asked to indicate a rating of one, two, three or four regarding the importance of the quality. The rating numeration and definition was the same as in section two of the survey form. A copy of the survey is found in Appendix A.

The survey presently exhibits content validity because of the origination point of the survey. Utah State University developed, field tested and surveyed with the instrument. The findings were

presented as part of a national research panel in Louisville, Kentucky, in April of 1980. In addition, the non-technical qualities outlined herein are recognized by the National Commission on Cooperative Education as the basis for a number of different student evaluations.

The reliability of the survey instrument used in this study was measured utilizing the test-retest method. On April 1, 1981, the survey was sent to ten faculty members and ten employers outside of the twelve states being surveyed. On April 15, 1981, the survey was sent to the same ten faculty members and the same ten employers. It was determined that those items not meeting the reliability of .70 would be omitted from the survey. The two groups of responses were then correlated using the Pearson Product Moment Correlation on an item-by-item basis to establish reliability of individual items on the two sections of the instrument. However, because of the lack of variability in the response category, reliability could not be established on an item-by-item basis.

The reliability of the survey instrument was then established in three ways: 1) by measuring the overall reliability of the instrument; 2) by measuring the reliability of the section dealing with non-technical employment qualities; and 3) by measuring the reliability of the section dealing with attitudinal characteristics. Each of the aforementioned was correlated utilizing the Pearson Product Moment Correlation.

As can be noted from Table 1, the overall reliability for the total instrument was .791. For the section of the instrument dealing with non-technical employment qualities the reliability was .681, while the section on attitudinal characteristics was found to have a reliability of .815.

Table 1

RELIABILITY OF SURVEY INSTRUMENT
UTILIZING PEARSON r

Section Correlated	Pearson r Value
Overall Instrument	.791
Non-Technical Qualities	.681
Attitudinal Characteristics	.815

Methods Used in Collecting
the Data

Data was collected from the population by means of a mailed survey instrument which was sent with a cover letter. A follow-up letter was mailed to non-respondents two weeks after the original mailing. If an 80% return rate was not achieved at this point, a third follow-up letter was to be sent to the remaining non-respondents. Copies of the cover letter and follow-up letter are found in Appendix B.

Statistical Hypotheses

Based upon general questions one through eight in Chapter I, the following null hypotheses were tested.

Null Hypothesis One. The rating of non-technical employment qualities is independent of employer or faculty affiliation.

Null Hypothesis Two. The rating of non-technical employment qualities between faculty members and employers is independent of time affiliated with the co-op program.

Null Hypothesis Three. The rating of non-technical employment qualities by faculty members is independent of affiliation with the following disciplines: Social Sciences, Sciences, Business and Humanities.

Null Hypothesis Four. The rating of non-technical employment qualities by faculty members and employers is independent of the length of time the co-op program has been in existence.

Null Hypothesis Five. The rating of attitudinal characteristics is independent of employer or faculty affiliation.

Null Hypothesis Six. The rating of attitudinal characteristics between faculty members and employers is independent of time affiliated with the co-op program.

Null Hypothesis Seven: The rating of attitudinal characteristics of faculty members is independent of affiliation with the following disciplines: Social Sciences, Sciences, Business and Humanities.

Null Hypothesis Eight. The rating of attitudinal characteristics by faculty members and employers is independent of the length of time the co-op program has been in existence.

Analysis of the Data

The demographic data collected in answering the first part of the instrument was presented using descriptive techniques.

The eight null hypotheses were tested at the .05 level using the Chi-Square Test of Independence. In determining the level of significance to be used in the study, both .10 and .01 were ruled out in order to balance the probability of making a Type I or Type II error. The .10 level of significance was not used because such a level would discourage readers from seriously considering the results. The study would, in all probability, be ignored. On the other hand, the .05 level of significance was used rather than .01 because of the importance attached to identifying even the smallest of differences. Since the area being examined in this study has not been studied carefully before, it was deemed important not to miss significant

differences--differences that could be missed at the .01 level of significance.

Since the Chi-Square Test of Independence was used in this study, in the event of an occurrence of empty cells, cells would be collapsed. The procedure followed was that recommended by Siegel (1956, p. 121-26).

Summary

This chapter contains a detailed description of the methods and procedures undertaken in the study.

The population consisted of faculty members of post-secondary institutions and participating employers supportive of cooperative education in twelve states comprising the Western Association of Work Experience Educators.

A survey instrument measuring the ratings of faculty members and employers on non-technical employment qualities and attitudinal characteristics was utilized for the study. The instrument contained 60 items, divided into two sections. Taken into account were the following variables which might have influenced the study.

1. Whether or not the coordinator and employer were involved, or had been involved recently, with the cooperative education program;
2. The location of the program; and
3. Whether or not the employer has served in an advisory capacity with the local co-op program.

A survey form was mailed in May of 1981 to determine if differences exist in the rating of non-technical employment qualities and attitudinal characteristics of these two groups. A follow-up letter and enclosed survey were sent out approximately two weeks later.

Eight statistical hypotheses were tested in the null form. The first four hypotheses were related to non-technical employment qualities and the last four were related to attitudinal characteristics.

The demographic data was analyzed descriptively in order to answer the general questions outlined in the first portion of the instrument. The Chi-Square Test of Independence was used to test the eight hypotheses. The .05 level of significance was used.

CHAPTER IV

Results and Findings

This study produced data concerning the ratings of faculty members and employers on non-technical employment qualities and attitudinal characteristics. The results are presented under two major headings. First, the population and demographic characteristics are discussed. Second, the results from the testing of the eight statistical hypotheses are presented. A number of tables are presented throughout the chapter that are related to analysis of the data.

Population and Demographic Characteristics

The population surveyed was obtained by writing the 54 directors of cooperative education programs in the 12 state region which comprises the Western Association of Work Experience Educators. A breakdown of where those 54 programs were located, by state, is shown in Table 2.

Table 2

LOCATION OF CO-OP PROGRAMS IN
WESTERN REGION BY STATE

State	No. of Programs
Alaska	2
California	19
Colorado	7
Idaho	0
Montana	4
Nebraska	1
Nevada	0
New Mexico	3
Oregon	6
Utah	5
Washington	7
Wyoming	0
Total	54

As can be noted from Table 2, three states, Idaho, Nevada and Wyoming, do not currently have cooperative education programs at the post-secondary level meeting the criteria outlined in this study. The largest concentrations of programs are in the states of California, Colorado, Washington and Oregon. These four states have a combined

total of 37 programs, or 68.5% of the programs found in the region surveyed.

Table 3 details the number of programs responding to the request for names of faculty members and employers, as well as the number of names generated in each category.

Table 3

NUMBER OF PROGRAMS RESPONDING TO REQUEST
FOR EMPLOYER AND FACULTY NAMES

State	No. of Programs Responding	Faculty Names	Employer Names
Oregon	6	30	29
Washington	5	25	24
California	17	58	58
Montana	4	20	20
Colorado	4	15	19
Alaska	1	5	5
Utah	3	15	15
New Mexico	3	14	14
Nebraska	1	5	5
Total	44	187	190

As indicated in Table 3, of the 54 directors contacted, 44, or 81.4% responded to the request for names of faculty members and

employers. The states of California, Oregon and Washington provided both the largest number of program directors responding as well as the largest number of names of faculty members and employers. These three states were responsible for 113 of the 187 faculty members surveyed and 111 of the 190 employers surveyed.

All 377 names provided by the directors of cooperative education were surveyed. The number of faculty members surveyed was 187. The number of employers surveyed was 190. The information contained in Table 4 indicates the return rate and also indicates the response to the first general question on the survey which asked: I am currently a: 1) faculty member, or b) employer. There was a total of 264 responses to the survey, or 70.03%. Of the 264 responses received, 255 were useable.

Table 4

NUMBER OF FACULTY MEMBERS AND EMPLOYERS
RESPONDING TO SURVEY

Group	Number Surveyed	Number of Useable Responses	Percentage of Useable Responses
Faculty Members	187	130	69.4%
Employers	190	125	65.7%
Total	377	255	67.9% (Avg.)

As demonstrated in Table 4, of the 377 names surveyed, 255, or 67.9% were considered useable.

Table 5 indicates the length of time faculty members and employers have been involved in cooperative education. The number of respondents in each category is detailed along with the appropriate percentages.

Table 5

LENGTH OF TIME FACULTY MEMBERS AND EMPLOYERS HAVE
BEEN INVOLVED IN COOPERATIVE EDUCATION

Length of Time	No. of Faculty Members	Percentage	No. of Employers	Percentage
0 - 2 years	57	43.9	64	51.2
3 - 5 years	40	30.8	36	28.8
6 - 8 years	16	12.3	10	8
9+ years	17	13.1	11	8.8
No Response	0		4	3.2
Total	130	100.1%	125	100.0%

As can be noted from Table 5, 97 of the 130 faculty members, or 74.7%, and 100 of 125 employers, or 80%, have been involved in cooperative education 5 years or less. Sixteen of 130, or 12.3% of faculty members, and 10 of 125, or 8% of employers, have been involved in cooperative education for 6 to 8 years.

General question number three on the survey form requested faculty members to identify the discipline area in which they were teaching. Only faculty were to respond to this question. The breakdown of faculty members responding by discipline area is found in Table 6. Note that due to rounding, percentages may total fractionally less than or more than 100%.

Table 6

DISCIPLINE AREA IN WHICH FACULTY MEMBERS
ARE CURRENTLY TEACHING

Discipline Area	No. of Faculty	Percentage of Total
Social Sciences	31	23.6%
Sciences	38	29.2%
Business	29	22.3%
Humanities	13	10.0%
Other	<u>19</u>	<u>14.6%</u>
Total	130	99.7%

Table 6 demonstrates that the social sciences and sciences account for 52.8% of the respondents, with the sciences faculty representing the largest group of respondents. The humanities faculty represented the smallest percentage of the total number of faculty responding to the survey.

General question number four on the survey form dealt with the length of time the co-op program has been in existence. Both faculty members and employers were to respond to this question. Table 7 details the number of respondents from co-op programs that have been in existence varying lengths of time.

Table 7
LONGEVITY OF CO-OP PROGRAM

Length of Time	No. of Respondents from Various Programs	Percentage Total
0 - 2 years	75	30.2%
3 - 5 years	80	32.3%
6 - 8 years	39	15.7%
9+ years	<u>54</u>	<u>21.8%</u>
Total	248	100.0%

The breakdown in Table 7 shows that 62.5% of the respondents were from programs that had been in existence 5 years or less. The most responses came from individuals in programs that had been in existence 5 years or less, while the least responses came from those individuals in programs in existence from 6 to 8 years.

Statistical Analysis

Six of the eight hypotheses are investigated inferentially by comparing faculty members and employers for each null statement. The other two hypotheses investigated only faculty members for each null statement. The Chi-Square Test of independence was utilized to test each null hypothesis at the .05 level of significance. Chi-Square values have been computed on collapsed cells where necessary. The procedure followed is that outlined by Siegel (1956, p. 121-26).

Null Hypothesis One. The rating of non-technical employment qualities is independent of employer or faculty affiliation.

Table 8 presents the results for each of the 30 non-technical employment qualities as they relate to faculty or employer affiliation.

Table 8

FACULTY MEMBERS' AND EMPLOYERS' RATINGS OF NON-TECHNICAL EMPLOYMENT QUALITIES

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	2	2.246
2. Follow instructions which are given.	2	5.372

*Significant at .05 level

Table 8 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
3. Show enthusiasm for the tasks to be performed.	2	6.616*
4. Have positive self-concept and be self-confident.	2	6.920*
5. Have a personal appearance suitable for the job.	2	2.064
6. Cooperate with fellow workers.	2	3.702
7. Use time to the best advantage of the company.	2	4.225
8. Show tact in relationships with others.	2	4.262
9. Demonstrate motivation to achieve on the job.	2	9.610*
10. Perform responsibilities in a thorough manner.	2	4.111
11. Take criticism when shown what has been done incorrectly.	1	1.921
12. Show initiative to perform on the job.	2	6.525*
13. Cooperate with supervisor/manager/owner.	2	3.088

*Significant at .05 level

Table 8 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
14. Display social skills and conduct acceptable to others.	2	1.594
15. Communicate effectively with others.	2	2.229
16. Demonstrate a pleasant personality.	2	1.329
17. Use correct English skills such as grammar.	2	1.956
18. React constructively to conflict situations with customers/clients or other employees.	2	8.356*
19. Use the telephone in a businesslike manner.	2	7.146*
20. Create a positive first impression when meeting others.	2	7.953*
21. Participate in constructive self-disclosure.	2	2.836
22. Adapt to many varying types of personality styles when communicating.	2	3.491
23. Work in harmony with those whose values and beliefs differ.	2	1.152

*Significant at .05 level

Table 8 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
24. Accept changing role of men/women in business.	2	5.114
25. Deal with prejudice in business.	1	3.315
26. Maintain good health for the job.	2	2.108
27. Participate as a team member in the organization.	2	1.228
28. Cope with change and new procedures on the job.	2	8.877*
29. Perform basic mathematical skills.	2	4.594
30. Support the concept of the free enterprise system.	2	1.653
*Significant at .05 level		

Table 8 identifies eight non-technical employment qualities as being significant at the .05 level. These are: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; create a positive first impression when meeting others; and cope with change and new procedures on the job.

Null Hypothesis Two. The rating of non-technical employment qualities between faculty members and employers is independent of time affiliated with the program.

Table 9 presents faculty members' ratings of non-technical employment qualities as related to time affiliated with the program.

Table 9

FACULTY MEMBERS' RATING OF NON-TECHNICAL EMPLOYMENT
QUALITIES ACCORDING TO LENGTH OF TIME
AFFILIATED WITH THE PROGRAM

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	3	3.149
2. Follow instructions which are given.	3	11.583*
3. Show enthusiasm for the tasks to be performed.	3	2.778
4. Have positive self-concept and be self-confident.	3	.7449
5. Have a personal appearance suitable for the job.	6	8.368
6. Cooperate with fellow workers.	3	1.576

*Significant at .05 level

Table 9 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
7. Use time to the best advantage of the company.	6	6.580
8. Show tact in relationships with others.	3	2.069
9. Demonstrate motivation to achieve on the job.	3	1.765
10. Perform responsibilities in a thorough manner.	3	2.125
11. Take criticism when shown what has been done incorrectly.	3	8.379*
12. Show initiative to perform on the job.	3	2.755
13. Cooperate with supervisor/manager/owner.	3	1.130
14. Display social skills and conduct acceptable to others.	6	8.259
15. Communicate effectively with others.	3	1.208
16. Demonstrate a pleasant personality.	6	3.219
17. Use correct English skills such as grammar.	3	1.620

*Significant at .05 level

Table 9 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
18. React constructively to conflict situations with customers/clients or other employees.	3	.457
19. Use the telephone in a businesslike manner.	6	2.002
20. Create a positive first impression when meeting others.	6	5.735
21. Participate in constructive self-disclosure.	6	5.667
22. Adapt to many varying types of personality styles when communicating.	6	5.594
23. Work in harmony with those whose values and beliefs differ.	6	4.287
24. Accept changing role of men/women in business.	6	6.682
25. Deal with prejudice in business.	6	2.558
26. Maintain good health for the job.	6	8.032
27. Participate as a team member in the organization.	3	5.169
28. Cope with change and new procedures on the job.	3	1.108

*Significant at .05 level

Table 9 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
29. Perform basic mathematical skills.	6	7.991
30. Support the concept of the free enterprise system.	9	23.848*
*Significant at .05 level		

In Table 9, three non-technical employment qualities were identified as being significant at the .05 level. The three qualities are: follow instructions which are given; take criticism when shown what has been done incorrectly; and support the concept of the free enterprise system.

Table 10 details the results of employers' ratings of non-technical employment qualities as related to time affiliated with the program.

Table 10

EMPLOYERS' RATINGS OF NON-TECHNICAL EMPLOYMENT
QUALITIES ACCORDING TO LENGTH OF TIME
AFFILIATED WITH THE PROGRAM

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	3	3.276
2. Follow instructions which are given.	3	1.152
3. Show enthusiasm for the tasks to be performed.	3	5.605
4. Have positive self-concept and be self-confident.	3	1.704
5. Have a personal appearance suitable for the job.	6	7.397
6. Cooperate with fellow workers.	3	1.476
7. Use time to the best advantage of the company.	3	1.507

*Significant at .05 level

Table 10 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
8. Show tact in relationships with others.	3	2.838
9. Demonstrate motivation to achieve on the job.	3	1.507
10. Perform responsibilities in a thorough manner.	3	1.408
11. Take criticism when shown what has been done incorrectly.	3	5.849
12. Show initiative to perform on the job.	3	.543
13. Cooperate with supervisor/manager/owner.	3	3.897
14. Display social skills and conduct acceptable to others.	6	6.343
15. Communicate effectively with others.	3	5.905
16. Demonstrate a pleasant personality.	6	4.401
17. Use correct English skills such as grammar.		6.439

*Significant at .05 level

Table 10 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
18. React constructively to conflict situations with customers/clients or other employees.	3	2.648
19. Use the telephone in a businesslike manner.	6	18.125*
20. Create a positive first impression when meeting others.	6	9.041
21. Participate in constructive self-disclosure.	6	2.841
22. Adapt to many varying types of personality styles when communicating.	6	1.723
23. Work in harmony with those whose values and beliefs differ.	3	1.220
24. Accept changing role of men/women in business.	6	5.185
25. Deal with prejudice in business.	6	6.593
26. Maintain good health for the job.	6	2.878
27. Participate as a team member in the organization.	3	1.008
28. Cope with change and new procedures on the job.	3	1.564

*Significant at .05 level

Table 10 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
29. Perform basic mathematical skills.	6	3.005
30. Support the concept of the free enterprise system.	9	12.223

*Significant at .05 level

As noted in Table 10, only one of the 30 non-technical employment qualities was found significant at the .05 level of significance. This was: use the telephone in a businesslike manner.

Null Hypothesis Three. The rating of non-technical employment qualities by faculty members is independent of affiliation with the following groups of disciplines: Social Sciences, Sciences, Business and Humanities.

In Table 11, the results of faculty members' ratings of non-technical employment qualities by discipline area are presented. Only faculty members were to respond to this question.

Table 11.

FACULTY MEMBERS' RATINGS OF NON-TECHNICAL
EMPLOYMENT QUALITIES BY
DISCIPLINE AREA

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	4	2.902
2. Follow instructions which are given.	4	6.504
3. Show enthusiasm for the tasks to be performed.	4	11.924*
4. Have positive self-concept and be self-confident.	4	4.673
5. Have a personal appearance suitable for the job.	4	9.387
6. Cooperate with fellow workers.	4	10.549*

*Significant at .05 level

Table 11 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
7. Use time to the best advantage of the company.	4	4.491
8. Show tact in relationships with others.	4	7.676
9. Demonstrate motivation to achieve on the job.	4	5.125
10. Perform responsibilities in a thorough manner.	4	4.065
11. Take criticism when shown what has been done incorrectly.	4	1.279
12. Show initiative to perform on the job.	4	16.719*
13. Cooperate with supervisor/manager/owner.	4	9.669*
14. Display social skills and conduct acceptable to others.	4	2.742
15. Communicate effectively with others.	4	7.252
16. Demonstrate a pleasant personality.	4	4.556
17. Use correct English skills such as grammar.	4	4.165

*Significant at .05 level

Table 11. (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
18. React constructively to conflict situations with customers/clients or other employees.	4	4.136
19. Use the telephone in a businesslike manner.	8	11.156
20. Create a positive first impression when meeting others.	4	13.329*
21. Participate in constructive self-disclosure.	8	9.430
22. Adapt to many varying types of personality styles when communicating.	8	12.167
23. Work in harmony with those whose values and beliefs differ.	4	9.252
24. Accept changing role of men/women in business.	8	16.550*
25. Deal with prejudice in business.	8	10.610
26. Maintain good health for the job.	8	12.251
27. Participate as a team member in the organization.	4	8.321
28. Cope with change and new procedures on the job.	4	12.795*

*Significant at .05 level

Table 11 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
29. Perform basic mathematical skills.	8	18.723*
30. Support the concept of the free enterprise system.	8	27.693*

*Significant at .05 level

As indicated in Table 11, nine of the non-technical employment qualities were found significant at the .05 level of significance.

The nine were: show enthusiasm for the task to be performed; cooperate with fellow workers; show initiative to perform on the job; cooperate with supervisor/manager/owner; create a positive first impression when meeting others; accept changing role of men/women in business; cope with change and new procedures on the job; perform basic mathematical skills; and support the concept of the free enterprise system.

Null Hypothesis Four. The rating of non-technical employment qualities by faculty members and employers is independent of the length of time the program has been in existence.

Table 12 gives the results of faculty members' ratings of non-technical employment qualities according to the length of time the co-op program has been in existence. Since both faculty and employers were to respond to this question, employers' results will be presented in Table 13.

Table 12

FACULTY MEMBERS' RATING OF NON-TECHNICAL
EMPLOYMENT QUALITIES ACCORDING TO
LONGEVITY OF CO-OP PROGRAM

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	3	3.130
2. Follow instructions which are given.	3	3.057
3. Show enthusiasm for the tasks to be performed.	3	12.954*
4. Have positive self-concept and be self-confident.	6	14.775*
5. Have a personal appearance suitable for the job.	3	4.880

*Significant at .05 level

Table 12 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
6. Cooperate with fellow Workers.	3	8.176*
7. Use time to the best advantage of the company.	3	5.718
8. Show tact in relationships with others.	3	9.787*
9. Demonstrate motivation to achieve on the job.	3	12.953*
10. Perform responsibilities in a thorough manner.	3	7.283
11. Take criticism when shown what has been done incorrectly.	3	2.025
12. Show initiative to perform on the job.	3	4.698
13. Cooperate with supervisor/manager/owner.	3	4.708
14. Display social skills and conduct acceptable to others.	3	5.319
15. Communicate effectively with others.	3	3.666
16. Demonstrate a pleasant personality.	6	6.702
17. Use correct English skills such as grammar.	6	5.471

*Significant at .05 level

Table 12 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
18. React constructively to conflict situations with customers/clients or other employees.	3	10.406*
19. Use the telephone in a businesslike manner.	3	4.886
20. Create a positive first impression when meeting others.	6	9.394
21. Participate in constructive self-disclosure.	6	4.673
22. Adapt to many varying types of personality styles when communicating.	6	6.323
23. Work in harmony with those whose values and beliefs differ.	3	12.426
24. Accept changing role of men/women in business.	6	10.311
25. Deal with prejudice in business.	6	11.179
26. Maintain good health for the job.	3	4.477
27. Participate as a team member in the organization.	6	6.479
28. Cope with change and new procedures on the job.	3	1.799

*Significant at .05 level

Table 12 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
29. Perform basic mathematical skills.	6	4.945
30. Support the concept of the free enterprise system.	9	14.531*
Significant at .05 level		

As indicated in Table 12, seven of the thirty non-technical employment qualities were found significant at the .05 level of significance. The seven were the following: show enthusiasm for the tasks to be performed; have a positive self-concept and be self-confident; cooperate with fellow workers; show tact in relationships with others; demonstrate motivation to achieve on the job; react constructively to conflict situations with customers/clients or other employees; and support the concept of the free enterprise system.

The results of employers' ratings of non-technical employment qualities according to the length of time the co-op program has been in existence are outlined in Table 13.

Table 13

EMPLOYERS' RATINGS OF NON-TECHNICAL EMPLOYMENT
QUALITIES ACCORDING TO LONGEVITY
OF CO-OP PROGRAM

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
1. Arrive for work and appointments on time.	3	1.663
2. Follow instructions which are given.	3	.764
3. Show enthusiasm for the tasks to be performed.	3	3.586
4. Have positive self-concept and be self-confident.	3	4.347
5. Have a personal appearance suitable for the job.	6	3.995
6. Cooperate with fellow workers.	3	2.194
7. Use time to the best advantage of the company.	3	1.120

*Significant at .05 level.

Table 13 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
8. Show tact in relationships with others.	3	1.272
9. Demonstrate motivation to achieve on the job.	3	2.455
10. Perform responsibilities in a thorough manner.	3	1.702
11. Take criticism when shown what has been done incorrectly.	3	3.875
12. Show initiative to perform on the job.	3	2.755
13. Cooperate with supervisor/manager/owner.	3	.938
14. Display social skills and conduct acceptable to others.	6	2.564
15. Communicate effectively with others.	3	3.750
16. Demonstrate a pleasant personality.	6	4.764
17. Use correct English skills such as grammar.	6	7.428

*Significant at .05 level

Table 13. (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
18. React constructively to conflict situations with customers/clients or other employees.	3	2.039
19. Use the telephone in a businesslike manner.	3	1.561
20. Create a positive first impression when meeting others.	6	7.498
21. Participate in constructive self-disclosure.	6	7.827
22. Adapt to many varying types of personality styles when communicating.	6	2.938
23. Work in harmony with those whose values and beliefs differ.	3	.310
24. Accept changing role of men/women in business.	6	3.074
25. Deal with prejudice in business.	6	3.163
26. Maintain good health for the job.	3	4.812
27. Participate as a team member in the organization.	3	1.148
28. Cope with change and new procedures on the job.	3	9.658*

*Significant at .05 level

Table 13 (continued)

Non-Technical Employment Qualities	Degrees of Freedom	Chi- Square
29. Perform basic mathematical skills.	6	9.770
30. Support the concept of the free enterprise system.	9	6.601

*Significant at .05 level

As noted in Table 13, only one of the thirty non-technical employment qualities was found significant at the .05 level of significance. This quality was: cope with change and new procedures on the job.

Null Hypothesis Five. The rating of attitudinal characteristics is independent of employer or faculty affiliation.

Table 14 gives the results of faculty members' and employers' ratings of attitudinal characteristics.

Table 14

FACULTY MEMBERS' AND EMPLOYERS' RATINGS
OF ATTITUDINAL CHARACTERISTICS

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	1	8.218*
2. Ambitious	1	4.64*
3. Cheerful	2	4.099
4. Courageous	2	6.770*
5. Courteous	2	17.930*
6. Dedicated	1	.136
7. Enthusiastic	2	1.875
8. Ethical	2	1.890
9. Forgiving	2	1.369
10. Helpful	1	.741
11. Honest	2	16.565*
12. Humorous	2	9.030*
13. Imaginative	1	1.488

*Significant at .05 level

Table 14 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
14. Independent	2	4.415
15. Intellectual	2	7.081*
16. Logical	2	2.772
17. Loyal	2	8.504*
18. Mature	2	2.788
19. Obedient	2	.757
20. Persistent	2	8.054*
21. People-oriented	2	19.487*
22. Polite	2	2.898
23. Professional	2	3.346
24. Religious	2	1.485
25. Responsible	2	1.446
26. Self-confident	2	2.674
27. Self-controlled	2	.881
28. Sociable	2	5.893*
29. Tactful	2	1.415
30. Understanding	3	10.03

*Significant at .05 level

As pointed out in Table 14, eleven of the thirty attitudinal characteristics were found to be significant at the .05 level of significance. The eleven attitudinal characteristics are: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable.

Null Hypothesis Six. The rating of attitudinal characteristics between faculty members and employers is independent of time affiliated with the co-op program.

Table 15 details the results of faculty members' ratings of attitudinal characteristics according to the length of time affiliated with the program. Since both faculty members and employers were to respond to this question, employer results follow in Table 16.

Table 15

FACULTY MEMBERS' RATINGS OF ATTITUDINAL
CHARACTERISTICS ACCORDING TO LENGTH
OF TIME AFFILIATED WITH THE PROGRAM

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	3	.395
2. Ambitious	6	13.803*
3. Cheerful	6	6.336
4. Courageous	6	5.869
5. Courteous	6	6.531
6. Dedicated	6	2.784
7. Enthusiastic	6	7.501
8. Ethical	6	6.189
9. Forgiving	6	8.351

*Significant at .05 level

Table 15 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
10. Helpful	3	2.759
11. Honest	3	1.905
12. Humorous	6	4.435
13. Imaginative	6	6.969
14. Independent	6	5.386
15. Intellectual	6	2.387
16. Logical	6	6.292
17. Loyal	6	4.707
18. Mature	3	1.909
19. Obedient	6	4.390
20. Persistent	6	5.031
21. People-oriented	6	4.239
22. Polite	6	5.841
23. Professional	6	6.841
24. Religious	6	14.434*
25. Responsible	6	1.928
26. Self-confident	6	5.614
27. Self-controlled	6	3.822
28. Sociable	6	3.558

*Significant at .05 level

Table 15 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
29. Tactful	6	5.365
30. Understanding	6	2.131

*Significant at .05 level

As noted in Table 15, only two of the thirty attitudinal characteristics were found to be significant at the .05 level of significance. The two were: ambitious and religious.

Table 16 presents the results of employers' ratings of attitudinal characteristics according to the length of time affiliated with the program.

Table 16

EMPLOYERS' RATINGS OF ATTITUDINAL CHARACTERISTICS
ACCORDING TO LENGTH OF TIME AFFILIATED
WITH THE PROGRAM

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	3	.579
2. Ambitious	6	1.802
3. Cheerful	6	2.399
4. Courageous	6	3.550
5. Courteous	3	1.602
6. Dedicated	6	9.241
7. Enthusiastic	3	7.644
8. Ethical	3	1.301
9. Forgiving	6	1.947
10. Helpful	3	3.561
11. Honest	3	1.933
12. Humorous	6	4.870
13. Imaginative	6	10.548

*Significant at .05 level

Table 16 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
14. Independent	6	13.534*
15. Intellectual	6	.989
16. Logical	3	.696
17. Loyal	6	7.479
18. Mature	3	1.212
19. Obedient	6	10.200
20. Persistent	6	6.979
21. People-oriented	6	4.753
22. Polite	6	1.466
23. Professional	3	1.980
24. Religious	6	6.181
25. Responsible	3	1.364
26. Self-confident	6	5.318
27. Self-controlled	3	.974
28. Sociable	6	7.590
29. Tactful	3	3.228
30. Understanding	6	11.410

*Significant at .05 level

The results presented in Table 16 indicate that one of the thirty attitudinal characteristics was found significant at the .05 level. This characteristic was: independent.

Null Hypothesis Seven. The rating of attitudinal characteristics of faculty members is independent of affiliation with the following group of disciplines: Social Sciences, Sciences, Business and Humanities.

Table 17 presents the results of faculty members' ratings by discipline of attitudinal characteristics. Only faculty members were to respond to this question.

Table 17

FACULTY MEMBERS' RATINGS OF ATTITUDINAL
CHARACTERISTICS BY DISCIPLINE AREA

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	4	29.553*
2. Ambitious	8	16.231*
3. Cheerful	4	18.343*
4. Courageous	8	26.216*
5. Courteous	4	11.079*
6. Dedicated	8	23.840*
7. Enthusiastic	4	6.764
8. Ethical	4	3.764
9. Forgiving	8	11.923

*Significant at .05 level

Table 17 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
10. Helpful	4	8.792*
11. Honest	4	.117
12. Humorous	8	27.968*
13. Imaginative	8	29.642*
14. Independent	8	18.132*
15. Intellectual	8	15.159
16. Logical	4	17.267*
17. Loyal	4	17.780*
18. Mature	4	15.748*
19. Obedient	8	13.887
20. Persistent	4	4.531
21. People-oriented	8	30.954*
22. Polite	4	11.498*
23. Professional	4	4.561
24. Religious	8	21.696*
25. Responsible	4	4.770
26. Self-confident	8	23.506*
27. Self-controlled	4	10.225*

*Significant at .05 level

Table 17 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
28. Sociable	8	25.224*
29. Tactful	4	13.077*
30. Understanding	8	22.310*

*Significant at .05 level

As indicated in Table 17, 21 of the thirty attitudinal characteristics were found significant at the .05 level of significance. The 21 attitudinal characteristics were: adaptable, ambitious, cheerful, courageous, courteous, dedicated, helpful, humorous, imaginative, independent, logical, loyal, mature, people-oriented, polite, religious, self-confident, self-controlled, sociable, tactful and understanding.

Null Hypothesis Eight. The rating of attitudinal characteristics by faculty members and employers is independent of the length of time the co-op program has been in existence.

The results of faculty members' ratings of attitudinal characteristics according to the length of time the co-op program has been in existence are presented in Table 18.

Table 18

FACULTY MEMBERS' RATINGS OF ATTITUDINAL
CHARACTERISTICS ACCORDING TO
LONGEVITY OF CO-OP PROGRAM

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	3	1.160
2. Ambitious	6	14.157*
3. Cheerful	6	6.164
4. Courageous	6	6.439
5. Courteous	3	16.322*
6. Dedicated	6	12.240
7. Enthusiastic	6	16.930*
8. Ethical	3	2.171
9. Forgiving	6	4.218

*Significant at .05 level

Table 18 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
10. Helpful	3	4.634
11. Honest	3	.904
12. Humorous	6	5.416
13. Imaginative	6	4.658
14. Independent	6	6.904
15. Intellectual	6	3.562
16. Logical	6	9.277
17. Loyal	6	2.858
18. Mature	3	6.602
19. Obedient	6	1.824
20. Persistent	3	3.405
21. People-oriented	6	8.586
22. Polite	3	.942
23. Professional	3	5.468
24. Religious	9	15.859
25. Responsible	3	3.249
26. Self-confident	6	13.733*
27. Self-controlled	6	6.641

*Significant at .05 level

Table 18 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
28. Sociable	6	11.763
29. Tactful	6	7.156
30. Understanding	6	7.104

*Significant at .05 level

As noted in Table 18, four of the 30 attitudinal characteristics were found to be significant at the .05 level of significance. The four attitudinal characteristics were: ambitious, enthusiastic, courteous, and self-confident.

Table 19 indicates the results of employers' ratings of attitudinal characteristics according to the length of time the co-op program has been in existence.

Table 19

EMPLOYERS' RATINGS OF ATTITUDINAL CHARACTERISTICS
ACCORDING TO LONGEVITY OF CO-OP PROGRAM

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
1. Adaptable	3	.797
2. Ambitious	6	4.255
3. Cheerful	6	6.192
4. Courageous	6	3.790
5. Courteous	3	.713
6. Dedicated	3	7.840*
7. Enthusiastic	3	1.000
8. Ethical	3	.932
9. Forgiving	6	3.470
10. Helpful	3	.465
11. Honest	3	4.026
12. Humorous	6	2.550
13. Imaginative	6	7.652

*Significant at .05 level

Table 19 (continued)

Attitudinal Characteristics	Degrees of Freedom	Chi-Square
14. Independent	6	6.460
15. Intellectual	6	13.141*
16. Logical	3	.121
17. Loyal	6	14.736*
18. Mature	3	1.659
19. Obedient		3.524
20. Persistent		4.558
21. People-oriented		7.215
22. Polite		1.479
23. Professional	3	1.082
24. Religious	9	11.233
25. Responsible		4.299
26. Self-confident	3	4.534
27. Self-controlled	3	.199
28. Sociable		3.336
29. Tactful	3	1.256
30. Understanding		5.149

*Significant at .05 level

As noted in Table 19, the three characteristics found significant at the .05 level were: dedicated, intellectual and logical.

Summary

This chapter contains a detailed analysis of the results and findings of this study.

The problem of this study was to compare faculty and employer ratings in the areas of non-technical employment qualities and attitudinal characteristics of co-op education students in the western region of the country. In addition, this study examined the influence selected demographic characteristics have upon faculty and employer responses.

The survey used in this study was developed at Utah State University. The survey was sent to faculty members and employers in the twelve-state region which comprises the Western Association of Work Experience Educators. A total of 54 programs in the twelve-state western region were asked to participate in the study by providing faculty and employer names of individuals involved with and supportive of co-op education. Forty-four programs responded to the request, thereby providing a total of 187 faculty names and 190 employer names. Of the 265 responses to the survey (70.03%), 255 were found useable. Faculty members accounted for 130 of the useable responses, or 69.4%, while employers accounted for 125, or 65.7%.

The information obtained relative to demographics was presented descriptively. The Chi-Square Test of Independence was used to test the eight hypotheses. The .05 level of significance was used.

The largest concentrations of programs was found to be in the states of California, Colorado, Washington and Oregon. These states provided the greatest response to the survey. The largest number of responses came from faculty members and employers who were involved in cooperative education 0-5 years. Faculty members representing the sciences accounted for the largest number of responses with 29.2%, while the humanities accounted for only 10.0% of the responses.

In examining the longevity of the co-op program, it was found that the most respondents came from programs that had been in existence 3-5 years. The least number of respondents were from programs that had been in existence from 6-8 years.

In Null Hypothesis One, which dealt with faculty and employers' ratings being independent of affiliation, eight non-technical employment qualities were found significant. They were: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; use the telephone in a businesslike manner; create a positive first impression when

meeting others; and cope with change and new procedures on the job.

Null Hypothesis Two examined the ratings of faculty members and employers being independent of time affiliated with the program. Those qualities found significant in each group are shown in Chart I.

Chart I

A COMPARISON OF FACULTY MEMBERS' AND EMPLOYERS' RATINGS OF
NON-TECHNICAL EMPLOYMENT QUALITIES ACCORDING TO
LENGTH OF TIME AFFILIATED WITH THE PROGRAM

Non-Technical Employment Qualities	Faculty	Employer
1. Arrive for work and appointments on time.		
2. Follow instructions which are given.	X	
3. Show enthusiasm for the tasks to be performed.		
4. Have positive self-concept and be self-confident.		
5. Have a personal appearance suitable for the job.		
6. Cooperate with fellow workers.		

Chart I (continued)

Non-Technical Employment Qualities	Faculty Member	Employer
7. Use time to the best advantage of the company.		
8. Show tact in relationships with others.		
9. Demonstrate motivation to achieve on the job.		
10. Perform responsibilities in a thorough manner.		
11. Take criticism when shown what has been done incorrectly.		X
12. Show initiative to perform on the job.		
13. Cooperate with supervisor/manager/owner.		
14. Display social skills and conduct acceptable to others.		
15. Communicate effectively with others.		
16. Demonstrate a pleasant personality.		
17. Use correct English skills such as grammar.		

Chart I (continued)

Non-Technical Employment Qualities	Faculty Member	Employer
18. React constructively to conflict situations with customers/clients or other employees.		
19. Use the telephone in a businesslike manner.		X
20. Create a positive first impression when meeting others.		
21. Participate in constructive self-disclosure.		
22. Adapt to many varying types of personality styles when communicating.		
23. Work in harmony with those whose values and beliefs differ.		
24. Accept changing role of men/women in business.		
25. Deal with prejudice in business.		
26. Maintain good health for the job.		
27. Participate as a team member in the organization.		
28. Cope with change and new procedures on the job.		

Chart I (continued)

Non-Technical Employment Qualities	Faculty Member	Employer
29. Perform basic mathematical skills.		
30. Support the concept of the free enterprise system.	X	

In Null Hypothesis Three, which dealt with the ratings of non-technical employment qualities by faculty members according to discipline area, nine were found significant: show enthusiasm for the tasks to be performed; cooperate with fellow workers; show initiative to perform on the job; cooperate with supervisor/manager/owner; create a positive first impression when meeting others; accept changing role of men/women in business; cope with change and new procedures on the job; perform basic mathematical skills; support the concept of the free enterprise system.

Null Hypothesis Four examined faculty and employer ratings of non-technical employment qualities according to the length of time the program had been in existence. Those qualities found significant in each group are presented in Chart II.

Chart II

A COMPARISON OF FACULTY MEMBERS' AND EMPLOYERS' RATINGS
OF NON-TECHNICAL EMPLOYMENT QUALITIES ACCORDING
TO LONGEVITY OF THE CO-OP PROGRAM

Non-Technical Employment Qualities	Faculty Member	Employer
1. Arrive for work and appointments on time.		
2. Follow instructions which are given.		
3. Show enthusiasm for the tasks to be performed.	X	
4. Have positive self-concept and be self-confident.	X	
5. Have a personal appearance suitable for the job.		
6. Cooperate with fellow workers.	X	
7. Use time to the best advantage of the company.		
8. Show tact in relationships with others.	X	
9. Demonstrate motivation to achieve on the job.	X	
10. Perform responsibilities in a thorough manner.		
11. Take criticism when shown what has been done incorrectly.		
12. Show initiative to perform on the job.		

Chart II (continued)

Non-Technical Employment Qualities	Faculty Member	Employer
13. Cooperate with supervisor/manager/owner.		
14. Display social skills and conduct acceptable to others.		
15. Communicate effectively with others.		
16. Demonstrate a pleasant personality.		
17. Use correct English skills such as grammar.		
18. React constructively to conflict situations with customers/clients or other employees.		X
19. Use the telephone in a businesslike manner.		
20. Create a positive first impression when meeting others.		
21. Participate in constructive self-disclosure.		
22. Adapt to many varying types of personality styles when communicating.		
23. Work in harmony with those whose values and beliefs differ.		

Chart II (continued)

Non-Technical Employment Qualities	Faculty Member	Employer
24. Accept changing role of men/women in business.		
25. Deal with prejudice in business.		
26. Maintain good health for the job.		
27. Participate as a team member in the organization.		
28. Cope with change and new procedures on the job.		X
29. Perform basic mathematical skills.		
30. Support the concept of the free enterprise system.	X	

In Null Hypothesis Five, which investigated faculty and employer ratings of attitudinal characteristics being independent of affiliation, the following eleven ratings were found significant: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable.

Null Hypothesis Six examined the ratings of attitudinal characteristics of faculty members and employers according to time affiliated with the program. A comparison of those characteristics found significant is shown in Chart III.

Chart III

A COMPARISON OF FACULTY MEMBERS' AND EMPLOYERS' RATINGS
OF ATTITUDINAL CHARACTERISTICS ACCORDING
TO TIME AFFILIATED WITH THE PROGRAM

Attitudinal Characteristics	Faculty Member	Employer
1. Adaptable		
2. Ambitious	X	
3. Cheerful		
4. Courageous		
5. Courteous		
6. Dedicated		
7. Enthusiastic		
8. Ethical		
9. Forgiving		
10. Helpful		
11. Honest		
12. Humorous		
13. Imaginative		
14. Independent		X
15. Intellectual		
16. Logical		
17. Loyal		

Chart III (continued)

Attitudinal Characteristics	Faculty Member	Employer
18. Mature		
19. Obedient		
20. Persistent		
21. People-oriented		
22. Polite		
23. Professional		
24. Religious	X	
25. Responsible		
26. Self-confident		
27. Self-controlled		
28. Sociable		
29. Tactful		
30. Understanding		

In Null Hypothesis Seven, which dealt with the ratings by faculty members of attitudinal characteristics by discipline area, the following 21 characteristics were found significant: adaptable, ambitious, cheerful, courageous, courteous, dedicated, helpful, humorous, imaginative, independent, logical, loyal, mature, people-

oriented, polite, religious, self-confident, self-controlled, sociable, tactful, and understanding.

Null Hypothesis Eight examined the ratings of attitudinal characteristics by faculty members and employers according to the longevity of the co-op program. A comparison of those characteristics found significant is indicated in Chart IV.

Chart IV

A COMPARISON OF FACULTY MEMBERS' AND EMPLOYERS' RATINGS
OF ATTITUDINAL CHARACTERISTICS ACCORDING TO
LONGEVITY OF THE CO-OP PROGRAM

Attitudinal Characteristics	Faculty Member	Employer
1. Adaptable		
2. Ambitious	X	
3. Cheerful		
4. Courageous		
5. Courteous	X	
6. Dedicated		X
7. Enthusiastic	X	
8. Ethical		
9. Forgiving		
10. Helpful		
11. Honest		
12. Humorous		
13. Imaginative		
14. Independent		
15. Intellectual		X
16. Logical		

Chart IV (continued)

Attitudinal Characteristics	Faculty Member	Employer
17. Loyal		X
18. Mature		
19. Obedient		
20. Persistent		
21. People-oriented		
22. Polite		
23. Professional		
24. Religious		
25. Responsible		
26. Self-confident	X	
27. Self-controlled		
28. Sociable		
29. Tactful		
30. Understanding		

CHAPTER V

Summary, Conclusions and Recommendations

This chapter summarizes the study "A Comparison of Faculty Member and Employer Ratings on Non-Technical Employment Qualities and Attitudinal Characteristics in the Western Region of the Country". It also presents conclusions drawn from the analysis of data collected in the study and makes recommendations for further study.

Summary

The problem of this study was to compare faculty member and employer ratings in the areas of non-technical employment qualities and attitudinal characteristics of co-op education students in the western region of the country. In addition, this study examined the influence selected demographic characteristics have upon faculty and employer responses.

Related literature was reviewed in Chapter II under three topics: historical development of cooperative education; attitudes and perceptions in cooperative education; and change theory as related to the implementation of a new idea.

The historical development of cooperative education demonstrates that in a 74-year period, co-op education has gained a national following at the post-secondary level. From its origin in 1906 with several hundred students participating, it has grown to over a thousand institutions with in excess of 200,000 students

enrolling annually in the co-op education program. In addition to the number of institutions participating, the number of disciplines has also increased. While the co-op program began as primarily an engineering offering, today it encompasses virtually all discipline areas in one form or another.

The measurement of attitude and perception in the co-op area has met with mixed results. While there is no overwhelming evidence that co-op significantly affects work values, selection of a career, maturity, job satisfaction, etc.; there is likewise no overwhelming evidence that it does not.

The implementation of a new idea has been shown to embody the utilization of sound change theories. Among these are the Overcoming Resistance to Change (ORC) Model which embodies the principle of participative discussion and democratic decision-making. Successful co-op education programs have been shown to utilize the same principles. The results of this study would aid in the information flow of discussion and decision-making.

A complete description of the methods used to collect and analyze the data was presented in Chapter III. The population consisted of faculty members of post-secondary institutions and participating employers supportive of cooperative education in twelve states comprising the Western Association of Work Experience Educators. A survey instrument developed at Utah State University was utilized

for the study. The instrument measured the ratings of faculty members and employers on non-technical employment qualities and attitudinal characteristics. The instrument contained 60 items, divided into two sections. In addition, four questions related to demographics were placed at the beginning of the survey. The survey form was mailed in May of 1981, and a follow-up letter and second copy of the survey were sent out approximately two weeks later. A 70.03% return rate was realized.

Eight statistical hypotheses were tested in the null form. The first four hypotheses were related to non-technical employment qualities and the last four were related to attitudinal characteristics.

The information obtained relative to the demographics was presented descriptively. The Chi-Square Test of Independence was used to test the eight hypotheses. The .05 level of significance was used.

The data collected during this study was presented in Chapter IV. A total of 377 faculty members and employers were asked to rate 30 non-technical employment qualities and 30 attitudinal characteristics. Of the 255 useable responses, 130 (50.98%) were faculty members and 125 (49.01%) were employers. Out of the 130 faculty members, 97, or 74.7%, had been involved in co-op education for 5 years or less, while 100, or 80% of the 125 responding employers, had been involved in co-op education for 5 years or less. The most responses (62.5%) came from individuals associated with programs that had been in

existence 5 years or less. The sciences and social sciences accounted for 52.8% of the faculty responses, while the humanities accounted for 10.0%.

For the hypothesis which dealt with faculty and employer ratings being independent of affiliation, the following non-technical employment qualities were found significant: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; use the telephone in a business-like manner; create a positive first impression when meeting others; and cope with change and new procedures on the job.

When examining ratings of faculty members and employers being independent of time affiliated with the co-op program, three faculty ratings of non-technical employment qualities and one employer rating were found significant. These qualities are detailed in Chart I in Chapter IV.

The third hypothesis investigated the ratings of faculty members being independent of affiliation with the discipline area in which the faculty member teaches. The following non-technical employment qualities were found significant: show enthusiasm for the tasks to be performed; cooperate with fellow workers; show initiative to perform on the job; cooperate with supervisor/manager/owner; create

a positive first impression when meeting others; accept changing role of men/women in business; cope with change and new procedures on the job; perform basic mathematical skills; and support the concept of the free enterprise system.

The hypothesis which examined the ratings by faculty members and employers of non-technical employment qualities being independent of the longevity of the co-op program found seven of the 30 non-technical employment qualities to be significant for faculty and one was found significant for employers. These qualities are detailed in Chart II, Chapter IV.

For hypothesis five, which investigated faculty and employer ratings of attitudinal characteristics being independent of affiliation, the following characteristics were found significant: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable.

The sixth hypothesis examined the ratings of attitudinal characteristics of faculty members and employers being independent of time affiliated with the co-op program. Two of the 30 faculty ratings were found significant, while one of the 30 employer ratings was found significant. A detailed comparison of faculty and employer ratings according to time affiliated with the program is found in Chart III, Chapter IV.

When investigating the ratings of attitudinal characteristics by faculty members being independent of the discipline area in which the faculty member teaches, the following characteristics were found significant: adaptable, ambitious, cheerful, courageous, courteous, dedicated, helpful, humorous, imaginative, independent, logical, loyal, mature, people-oriented, polite, religious, self-confident, self-controlled, sociable, tactful, and understanding.

Hypothesis eight, which dealt with the ratings of attitudinal characteristics by faculty members and employers being independent of longevity of the co-op program, found four of the 30 faculty ratings and three of the 30 employer ratings significant. Chart IV in Chapter IV gives a comparison of faculty members' and employers' ratings according to longevity of the co-op program.

Conclusions

The following conclusions have been drawn from the analysis of the study's findings.

1. The greatest preponderance of co-op programs is in the states of California, Washington and Oregon. These three states have more programs (28) than the other remaining states combined.

Several factors could have affected this concentration of programs.

Cooperative education has developed more rapidly in these states

because of large urban centers and population concentrations in these centers. Also, the development of the community college movement in these states was particularly intense during the 1970's, when co-op education at the post-secondary level was receiving considerable impetus.

2. The largest number of faculty and employer response came from the states of California, Washington and Oregon. As noted in number one above, since these states have the largest number of institutions, it is logical to assume there would be more individuals surveyed from these states.

3. More faculty members and employers in the western region have been involved 0 to 2 years, than any other single period of time. More than 43% of the faculty members and 51% of the employers had been involved in co-op education two years or less. Combining the time span 3 to 5 years with 0 to 2 years, more than 70% of the faculty members and 80% of the employers have been involved in co-op education 5 years or less. Since the impact of federal funding, alluded to in Chapter I, began in the early 1970's and had a significant impact on program expansion throughout the 1970's, it is not surprising that individuals would have been involved for such a brief period of time.

4. There is a fairly even spread of faculty members responding to the survey from the social sciences, sciences and business. These

three discipline areas accounted for 74.1% of the survey respondents, while the humanities represented only 10% of the respondents.

Nationwide, the co-op education movement has been concerned with the dearth of co-op programs in the humanities areas. This is borne out in the survey results. The fact that the co-op movement had its historical origins in the engineering and science curriculums could also account for this small percentage of responses from the humanities.

5. In 22 of the 30 ratings of non-technical employment qualities it makes no difference whether an individual is a faculty member or employer. Eight of the non-technical employment qualities are independent of an individual's affiliation. The ones that are not rated the same, and therefore independent of affiliation are: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; demonstrate motivation to achieve on the job; show initiative to perform on the job; react constructively to conflict situations with customers/clients or other employees; use the telephone in a businesslike manner; create a positive first impression when meeting others; and cope with change and new procedures on the job. There are several possible explanations for the close congruence of ratings on the twenty-two non-technical employment qualities. As noted in numbers three and four above, a large number of faculty members and employers have been affiliated with the co-op program the same period of time - 5 years or less. Also, as pointed out in Chapter IV,

the co-op program has been in existence in a large number of institutions for approximately the same period of time. Therefore, respondents may tend to reflect the same philosophy and viewpoint, more so than a population widely diverse in these demographic areas. As to the eight qualities found significant, there appears to be differences of opinion as to the importance of these qualities, in spite of the fact that these qualities are recognized as important for success. This may suggest confusion on the part of the co-op coordinator, faculty members or employers regarding these qualities.

6. There is little relationship between the ratings of faculty members and employers on non-technical employment qualities and the length of time they have been affiliated with the program on 26 of the 30 qualities. Three of the 30 faculty ratings of non-technical employment qualities were significant at the .05 level, indicating a relationship to the length of time affiliated with the program. These three qualities were: follow instructions which are given; take criticism when shown what has been done incorrectly; and support the concept of the free enterprise system. For employer ratings, only one quality was found significant: use the telephone in a businesslike manner. As pointed out in Chapter IV, 74.7% of the faculty and 80% of the employers have been involved in co-op education 5 years or less. This similarity in length of time may affect an individual's perspective of non-technical employment qualities.

7. For almost one-third of the non-technical employment qualities the discipline area in which the faculty member teaches affects the ratings. Nine of the 30 non-technical employment qualities were found significant at the .05 level. These nine non-technical employment qualities are: show enthusiasm for the tasks to be performed; cooperate with fellow workers; show initiative to perform on the job; cooperate with supervisor/manager/owner; create a positive first impression when meeting others; accept changing role of men/women in business; cope with change and new procedures on the job; perform basic mathematical skills; and support the concept of the free enterprise system. The importance of the ratings of these nine qualities lies in the exposure of students to what may be confusing and conflicting viewpoints. While one would continue to consider diversity as a healthy state on a university campus, perhaps a certain uniformity of opinion regarding the importance of these qualities or characteristics in the education community is desirable. This lack of uniformity means that students receive differing views of the importance of these non-technical employment qualities, depending on the discipline area in which they happen to be. This is perhaps not the most desirable situation. On the other hand, for the remaining twenty-one of the thirty non-technical employment qualities, the discipline area in which a faculty member teaches makes little difference as to the rating of these qualities.

8. The length of time a co-op program has been in existence affects faculty ratings of non-technical employment qualities more than it affects employer ratings of the same qualities. Nine of the thirty non-technical employment qualities was found significant at the .05 level for faculty, while only one was found significant at the .05 level for employers. The nine qualities found significant in the faculty ratings were: show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; cooperate with fellow workers; show tact in relationships with others; demonstrate motivation to achieve on the job; perform responsibilities in a thorough manner; react constructively to conflict situations with customers/clients or other employees; work in harmony with those whose values and beliefs differ; and support the concept of the free enterprise system. The lone quality found significant in the employer ratings was: cope with change and new procedures on the job. In examining this discrepancy in ratings between faculty members and employers it is evident that employers are not affected as much by longevity of the program in their ratings of non-technical employment qualities. The same cannot be said of faculty members. There does not appear to be a readily available answer for this discrepancy. It is possible, however, that faculty members involved with cooperative education have either not been recently involved with the marketplace or have not been employed in the private sector before. Employers,

however, even if only recently involved with cooperative education, could have been involved in the private sector for a longer period of time.

9. In eleven of the 30 attitudinal characteristics, an individual's affiliation as a faculty member or employer affects the ratings of that characteristic. The eleven attitudinal characteristics are: adaptable, ambitious, courageous, courteous, honest, humorous, intellectual, loyal, persistent, people-oriented, and sociable. The remaining 19 characteristics are independent of affiliation.

10. There is little relationship overall between the ratings of faculty members and employers on attitudinal characteristics and the length of time the co-op program has been in existence. For 27 of the thirty attitudinal characteristics, length of time the co-op program has been in existence did not influence faculty member or employer ratings. The three items which they disagree on are: ambitious, religious (faculty members), and independent (employers).

11. The discipline area in which a faculty member teaches affects the rating of 21 attitudinal characteristics. The twenty-one on which they disagree are: adaptable, ambitious, cheerful, courageous, courteous, dedicated, humorous, imaginative, independent, logical, loyal, mature, people-oriented, polite, religious, self-confident, self-controlled, sociable, tactful, and understanding.

Given the diversity of opinion in the faculty involved in higher education on any given issue, such a diversity of opinion on the ratings of these thirty attitudinal characteristics is not surprising. This might also suggest that having standard programs requiring agreement on a number of these issues may not be realistic and may tend to be a constraint on comprehensive program development.

12. The longevity of the co-op program has limited effect on faculty members' and employers' ratings of attitudinal characteristics. Four of 30 faculty ratings and three of 30 employer ratings were found significant at the .05 level. The four attitudinal characteristics on which faculty members disagree are: ambitious, courteous, enthusiastic and self-confident. The three characteristics on which employers disagree are: dedicated, intellectual and loyal. Perhaps, for faculty members, the characteristics of ambitious, enthusiastic and courteous carry connotations of the overly-eager, fawning employee who is an unthinking person. The appearance of the characteristic of self-confidence in this group is interesting, since much research in recent years on this topic has come from the educational community. The importance of self-confidence for success in almost any undertaking is recognized both in the private sector and higher education. Therefore, one might have expected more agreement on this characteristic. Employers, on the other hand, are split on their ratings of the importance of intellectual as a desired employee characteristic. Once

again, perhaps a negative impression is gleaned from this word by employers. The other two characteristics - dedicated and loyal, - are very close in meaning and once again indicate employer disagreement. Perhaps the importance of this characteristic is beginning to fade as managers become more concerned with competence and less with loyalty or dedication.

13. For fifteen of the thirty non-technical employment qualities, none of the demographics influence faculty member or employer ratings. These non-technical employment qualities are as follows: arrive for work and appointments on time; follow instructions which are given; show enthusiasm for the tasks to be performed; have positive self-concept and be self-confident; have a personal appearance suitable for the job; cooperate with fellow workers; use time to the best advantage of the company; show tact in relationships with others; demonstrate motivation to achieve on the job; perform responsibilities in a thorough manner; take criticism when shown what has been done incorrectly; show initiative to perform on the job; cooperate with supervisor/manager/owner; display social skills and conduct acceptable to others; communicate effectively with others; demonstrate a pleasant personality; use correct English skills such as grammar; react constructively to conflict situations with customers/clients or other employees; use the telephone in a businesslike manner; create a positive first impression when meeting others; participate in constructive

self-disclosure; adapt to many varying types of personality styles when communicating; work in harmony with those whose values and beliefs differ; accept changing role of men/women in business; deal with prejudice in business; maintain good health for the job; participate as a team member in the organization; cope with change and new procedures on the job; perform basic mathematical skills; support the concept of the free enterprise system.

The diversity and range of these qualities does not lead to any apparent generalizations regarding their independence. One possible explanation, however, might be the acceptability of these qualities as essential for success on most jobs. On the other hand, the fact that on 15 of the 30 there is disagreement would indicate a need to examine these 15 further to determine the reasons why they are rated differently.

14. Five of the 30 attitudinal characteristics were found to be independent of any of the following: faculty or employer affiliation, length of time the faculty member or employer has been affiliated with the program, discipline area in which the faculty member teaches, and the length of time the co-op program has been in existence. They are: ethical, forgiving, helpful, obedient and tactful. Given the emphasis in curriculums on ethical considerations, the use of tact, and the importance of human interaction through helping, the independence of these characteristics is not surprising. With the presence of the

characteristic of obedience in these characteristics - a word with strong connotations and overtones - one would have expected a wider divergence of opinion on its relative importance as an attitudinal characteristic.

15. Three non-technical employment qualities were found to be significant in several situations. The three qualities are: show enthusiasm for the task to be performed, cope with change and new procedures on the job, and support the concept of the free enterprise system. The first of these, show enthusiasm for the tasks to be performed, was found to be significant when looking at affiliation, discipline area, and longevity of program. Coping with change and new procedures on the job was also found to be significant for affiliation, discipline area, and longevity of program. The third non-technical employment quality, support the concept of the free enterprise system, was found to be significant when examining length of time affiliated with the program, discipline area, and longevity of program.

Given the rate of change occurring in both the private sector and higher education, some divergency of viewpoints would be expected. In rating the concept of the free enterprise system, it should be noted that the statistical significance occurred when looking at three of the demographic areas for faculty. Essentially the same situation is found with faculty ratings of the non-technical employment quality of coping with change. In rating the concept quality of coping with change, it should be noted that the statistical significance occurred when

examining two demographic areas for faculty and one for faculty and employers combined.

16. For three of the 30 attitudinal characteristics, one or more of the demographics influenced faculty or employer responses. The three characteristics are: ambitious, courteous and loyal. The first of these, ambitious, was found to be significant when examining affiliation, length of time affiliated with the program, discipline area, and longevity of program. The second of these characteristics, courteous, was found to be significant when investigating affiliation, discipline area and longevity of program. The third of these characteristics, loyal, was found to be significant when looking at affiliation, discipline area and longevity of program.

In rating the characteristic of ambitious, it should be pointed out that the statistical significance occurred when looking at four of the demographic areas for faculty. Also, the rating of the characteristic of courteous was found statistically significant when examining three of the demographic areas for faculty. Faculty are apparently in disagreement on the relative importance of this characteristic. The attitudinal characteristic of loyalty was found statistically significant in both faculty and employers' ratings.

It would appear that among faculty members, generally speaking, disagreement is more marked than among employers on these attitudinal characteristics. Perhaps proximity to the marketplace gives a differ-

ent perspective on qualities and characteristics needed for success than does educational setting. If this is so, the implication is clearly that co-op has much to offer the interested educator - an opportunity to get closer to the marketplace through working with students and thereby being exposed to the prerequisites of success as viewed by the employer.

Recommendations

Based on the findings of this study, the researcher recommends that the following actions be taken:

1. Change co-op placement procedures for students to make certain that employers' concerns are matched with students' abilities. Obviously employers feel strongly about the importance of certain non-technical employment qualities and attitudinal characteristics. If students placed with employers do not reflect those concerns, there will be unnecessary strain on both parties.

2. Encourage closer interaction between employers and faculty members in order to correct areas of disagreement. Only through communication can disagreements be solved. Faculty/employer workshops addressing these areas could substantially affect the areas of disagreement.

3. Emphasize to faculty involved with co-op education that coursework should emphasize the qualities and characteristics deemed

important by employers. In some cases this will require a restructuring of curriculum to achieve this objective.

4. Share this information with others involved in co-op education in the western region to add to the quality of the co-op education experience. Other directors, faculty and employers have much to gain through an understanding of the qualities and characteristics faculty members and employers consider important for success in the workplace.

5. Research the areas of disagreement outlined in this study in order to determine why the discrepancy exists in the ratings of faculty members and employers.

6. Replicate this study in other geographic areas to determine if other regions of the country would rate these qualities and characteristics similarly.

7. A more in-depth study should be made of the particular demographics that affected employer and faculty ratings. For example, the length of time a co-op program has been in existence affects faculty ratings of nine of the thirty non-technical employment qualities. In examining the data the researcher found that the longer a program has been in existence, the more important these nine qualities were considered to be. This was true for the time spans 0-2 years, 3-5 years, and 6-8 years. However, in the category of 9+ years, the relative

importance of these qualities shows a decline in faculty ratings. A more in-depth study of this area would be a valuable addition to the field of cooperative education.

8. Replicate this study utilizing a different set of demographic characteristics. For example, the demographic characteristic of male/female could be used. Other demographics could include the length of time the faculty member has been in the teaching field, the specific background of the faculty member and employment experience outside of the field of higher education. Demographics of employers, such as number of years in business, educational training, etc., could be related to ratings of non-technical employment qualities and attitudinal characteristics.

9. Replicate this study utilizing the ratings of students on non-technical employment qualities and attitudinal characteristics. Since the ratings of faculty members and employers have now been examined, it would be helpful to know how students rate the same qualities and characteristics.

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APPENDIX A

Identification No. _____
(for follow-up purposes
only)

NON-TECHNICAL EMPLOYMENT QUALITIES
FOR COOPERATIVE EDUCATION STUDENTS

I. Faculty members complete numbers 1 through 4. Employers complete numbers 1, 2 and 4. Answer by placing the appropriate letter in the space next to the number.

___ 1. I am currently a:

- a. Faculty member
- b. Employer

___ 2. I have been involved in cooperative education for:

- a. 0-2 years
- b. 3-5 years
- c. 6-8 years
- d. 9 years or longer

___ 3. I teach in:

- a. Social Sciences
- b. Sciences
- c. Business
- d. Humanities

___ 4. Our co-op program has been in existence:

- a. 0-2 years
- b. 3-5 years
- c. 6-8 years
- d. 9 years or longer

II. Please rate by circling the level of importance for each item stated below and on the following pages as you review its necessity for students seeking employment through cooperative education programs. All items are non-technical employment qualities.

-
1. No Importance
 2. Limited Importance
 3. Important
 4. Extremely Important
-

How important is it for a cooperative education student to:

- | | | | | |
|--|---|---|---|---|
| 1. Arrive for work and appointments on time. | 1 | 2 | 3 | 4 |
| 2. Follow instructions which are given. | 1 | 2 | 3 | 4 |
| 3. Show enthusiasm for the tasks to be performed. | 1 | 2 | 3 | 4 |
| 4. Have positive self-concept and be self-confident. | 1 | 2 | 3 | 4 |
| 5. Have a personal appearance suitable for the job. | 1 | 2 | 3 | 4 |
| 6. Cooperate with fellow workers. | 1 | 2 | 3 | 4 |
| 7. Use time to the best advantage of the company. | 1 | 2 | 3 | 4 |
| 8. Show tact in relationships with others. | 1 | 2 | 3 | 4 |
| 9. Demonstrate motivation to achieve on the job. | 1 | 2 | 3 | 4 |
| 10. Perform responsibilities in a thorough manner. | 1 | 2 | 3 | 4 |
| 11. Take criticism when shown what has been done incorrectly. | 1 | 2 | 3 | 4 |
| 12. Show initiative to perform on the job. | 1 | 2 | 3 | 4 |
| 13. Cooperate with supervisor/manager/owner. | 1 | 2 | 3 | 4 |
| 14. Display social skills and conduct acceptable to others. | 1 | 2 | 3 | 4 |
| 15. Communicate effectively with others. | 1 | 2 | 3 | 4 |
| 16. Demonstrate a pleasant personality. | 1 | 2 | 3 | 4 |
| 17. Use correct English skills such as grammar. | 1 | 2 | 3 | 4 |
| 18. React constructively to conflict situations with customers/clients or other employees. | 1 | 2 | 3 | 4 |
| 19. Use the telephone in a businesslike manner. | 1 | 2 | 3 | 4 |
| 20. Create a positive first impression when meeting others. | 1 | 2 | 3 | 4 |

- | | | | | |
|---|---|---|---|---|
| 21. Participate in constructive self-disclosure. | 1 | 2 | 3 | 4 |
| 22. Adapt to many varying types of personality styles when communicating. | 1 | 2 | 3 | 4 |
| 23. Work in harmony with those whose values and beliefs differ. | 1 | 2 | 3 | 4 |
| 24. Accept changing role of men/women in business. | 1 | 2 | 3 | 4 |
| 25. Deal with prejudice in business. | 1 | 2 | 3 | 4 |
| 26. Maintain good health for the job. | 1 | 2 | 3 | 4 |
| 27. Participate as a team member in the organization. | 1 | 2 | 3 | 4 |
| 28. Cope with change and new procedures on the job. | 1 | 2 | 3 | 4 |
| 29. Perform basic mathematical skills. | 1 | 2 | 3 | 4 |
| 30. Support the concept of the free enterprise system. | 1 | 2 | 3 | 4 |

III. Please rank by circling the level of importance for each attitude or characteristic stated below as you review its necessity for students seeking employment through cooperative education programs.

-
1. No Importance
 2. Limited Importance
 3. Important
 4. Extremely Important
-

- | | | | | | | | | | |
|------------------|---|---|---|---|---------------------|---|---|---|---|
| 1. Adaptable | 1 | 2 | 3 | 4 | 16. Logical | 1 | 2 | 3 | 4 |
| 2. Ambitious | 1 | 2 | 3 | 4 | 17. Loyal | 1 | 2 | 3 | 4 |
| 3. Cheerful | 1 | 2 | 3 | 4 | 18. Mature | 1 | 2 | 3 | 4 |
| 4. Courageous | 1 | 2 | 3 | 4 | 19. Obedient | 1 | 2 | 3 | 4 |
| 5. Courteous | 1 | 2 | 3 | 4 | 20. Persistent | 1 | 2 | 3 | 4 |
| 6. Dedicated | 1 | 2 | 3 | 4 | 21. People-oriented | 1 | 2 | 3 | 4 |
| 7. Enthusiastic | 1 | 2 | 3 | 4 | 22. Polite | 1 | 2 | 3 | 4 |
| 8. Ethical | 1 | 2 | 3 | 4 | 23. Professional | 1 | 2 | 3 | 4 |
| 9. Forgiving | 1 | 2 | 3 | 4 | 24. Religious | 1 | 2 | 3 | 4 |
| 10. Helpful | 1 | 2 | 3 | 4 | 25. Responsible | 1 | 2 | 3 | 4 |
| 11. Honest | 1 | 2 | 3 | 4 | 26. Self-confident | 1 | 2 | 3 | 4 |
| 12. Humorous | 1 | 2 | 3 | 4 | 27. Self-controlled | 1 | 2 | 3 | 4 |
| 13. Imaginative | 1 | 2 | 3 | 4 | 28. Sociable | 1 | 2 | 3 | 4 |
| 14. Independent | 1 | 2 | 3 | 4 | 29. Tactful | 1 | 2 | 3 | 4 |
| 15. Intellectual | 1 | 2 | 3 | 4 | 30. Understanding | 1 | 2 | 3 | 4 |

APPENDIX B

COVER LETTER

May 18, 1981

Dear Faculty Member:

I need your help. Ten minutes is all. I'm doing a study about how faculty members and employers rate certain attitudes and qualities of students. The co-op education director at your institution identified you and several of your colleagues as being involved in co-op in one way or another. So--I'm seeking your aid.

Will you please help? Right away? This survey only takes 10 minutes to complete. And the results could immensely aid in the structuring of co-op learning experiences.

I wish I had or could afford to offer you something of value (like the expert direct mail people do) for filling this out. But I can't. So. . . how about if I promise to send you a copy of the results of the survey?

Thanks for your help. I really do mean "Thanks!"

Sincerely,

Ron Harris, Director
Cooperative Education

Enclosure

P.S. Just return the survey in the enclosed, stamped envelope. It'll get to me.

FOLLOW-UP LETTER

June 16, 1981

Dear :

Several weeks ago I requested your participation in a major study I am conducting in the western region of the country.* Your name was provided to me by the co-op education director at your institution. You were identified as a person who works from time to time with co-op education internship students. Your participation is still needed.

Would you please take 10 minutes and fill out the enclosed questionnaire. The pre-testing indicates it only takes an average of 10 minutes to complete. So--would you please take the time right now and complete the questionnaire. Slip it in the self-addressed, business return envelope and return it to me.

I really do appreciate the ten minutes you take to fill this out. To demonstrate my appreciation, I'll be glad to send you a copy of the results of the survey. The real appreciation will come from students, however, who will be affected by the results of the survey--a closer coordination between what we emphasize at the teaching level and what the expectation of the business world is.

Thanks once again for your time and consideration.

Sincerely,

Ronald R. Harris, Director
Cooperative Education

Enclosure

*Formal study entitled: "A Comparison of the Ratings of Faculty Members and Employers on Non-Technical Employment Qualities in the Western Region of the Country.

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