FACTORS INFLUENCING STUDENT PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS AT SELECTED POST SECONDARY INSTITUTIONS

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Dedicated to my Grandchildren

Terrell, Kila, Calvin "Billy",
Marcia, Henry V, Mark, Jr.,
Teneece, Matthew and Wesley Edward

And the memory of my parents

James Wesley Edwards, Sr. and
Laura Freeman Edwards

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CHAPTER I

Introduction

In recent years a number of forces have combined to cause administrators and faculty to examine what has been termed a "crisis" in higher education. Gotlieb (1981) points out that "traditional students and their parents are questioning the value of a college education" (p. 1). Barbeau (1982) views the crises as stemming from the changing requirements of society itself, and also from the fact that principles and practices in our educational systems have become outmoded. McBride (1980) concurs, saying, "There are glaring deficiencies in the learning process which add up to what many concerned leaders see as a crisis in education." McBride (1980) goes on to say that the crisis is due in part to the failure of education on all levels to adapt to the dramatic changes in social and economic conditions, and that an even more basic problem is that higher education has failed to correct the isolation of the college classroom from the world of work. He contends that the experience of college students is confined within the enclave of the campus where little or no contact is available with the realities of the workplace. Palkot (1978) addresses the issue stating that isolation--the lack of outside experience by students--leads to a random, untested

selection of a major (choice of a career) that may not be available upon graduation, and that this leads to under-employment and frustration. He suggests that academically structured off-campus experiences which emphasize educational value give the student the laboratory to test his career choice--and that it is through this model that education can meet the requirements of a changing world.

Porter (1974) of the National Commission for Cooperative Education responded to the crisis, stating: "Our educational system is structured so that students are kept in a protracted state of isolation from the 'real' world of work and responsibility" (p. 5). He goes on by calling for a remedy to the situation by building linkages between the worlds of work and education. Dromgoole (1987) draws upon 20 years of experience and his interaction with more than 300 cooperative colleges and universities, stating that these are difficult times for all of higher education and that the future will be full of crises and at the same time opportunity. He reports that the Conference Board, President Reagan's Task Force or Private Sector Initiatives, the Carnegie Commission and the Congress of the United States are suggesting more "relevance" in the higher education curriculum. Dromgoole (1987) states: "Thousands of parents and students are demanding an increased relevance in the curriculum" (p. 9).

A number of cooperative education researchers, authorities and practitioners such as Wilson (1974; 1980; 1986),

Gotlieb (1981), Garner (1980), Porter (1982), Koltai (1982), Jabs (1984), Testa (1984), Friday (1984), Abitia (1985), Ross and Marriner (1985) and Dromgoole (1987), among others, have indicated that cooperative education contributes significantly to the overall educational and personal development of student participants.

The cooperative education concept was initiated in 1903 by Herman Schneider as a means of strengthening student learning by alternating classroom study with study-related employment in both the private and public sectors (Van der Vorm, 1986). According to Ross and Marriner (1985) cooperative education draws from the philosophy of functional education in that students learn by doing. Barbeau (1985) states:

> The philosophy of cooperative education is simple and direct. There are parts of every occupation that cannot be learned in the academic setting--that can be learned only by practice. To some extent all of life is like that. Some things can be learned only by experiencing life itself (p. 65).

Barbeau (1985) goes on by saying that in Schneider's concept, practice and theory should be taught simultaneously.

Dromgoole (1987), Otto (1986), and Rubin (1986), among other authorities suggest that linking education to the preparation for life is a worthy educational goal. Pierce and Birmingham (1981) say that students who participate in cooperative education programs receive the best of both the educational world and the world of work. In spite of the value of cooperative education, only two percent of the

eligible students have chosen cooperative education as an educational option (Porter 1982). Yet, those students who have benefited from the program applaud its value (Hershey, 1982; Welch, 1982; Thompson, 1984).

Statement of the Problem

The problem that led to this study is the recognition that student participation in cooperative education programs on the national level is very low (Porter and Nielsen, 1986; Davies and Carr, 1984; Dromgoole, 1987).

National studies show that eighty years after the inauguration of the first cooperative education program, only two percent of students at institutions of higher education are participating in the program (National Commission for Cooperative Education, 1974; 1978). Yet, it has been applauded by educators, employers, students and parents as an educational strategy which brings relevance to the curriculum, as a vehicle which forges linkages between industry and education, and most importantly, as a unique collaboration which provides opportunities for students to realize their full academic, personal and career potential (Wilson, 1984 and 1986; McBride, 1980; Rubin, 1986; Thompson, 1984; Welch, 1982; Hershey, 1982).

Specifically, the problem of this study is the underutilization of cooperative education by students.

Research Questions

The questions that this study sought to answer are:

1. Do cooperative education students differ from non-cooperative education students in terms of their work values as defined by Donald E. Super's Work Values Inventory, on the independent measures of altruism, esthetics, creativity, intellectual, achievement, independence, prestige, management, economic, security, surroundings, supervisory relations, associates, way of life and variety? and

2. What are some selected factors which potentially influence students to participate or not participate in cooperative education?

Need for the Study

There is considerable concern among cooperative education administrators and coordinators that growth of cooperative education has been slow (Dromgoole, 1987). Dromgoole (1987) raises two pertinent questions: 1) "If the concept is so good and so timely, then why hasn't it grown at a faster rate? and 2) why do we have less than one percent of the student population on co-op?" (p. 9). The National Commission for Cooperative Education (1978) states that although a large number of programs have begun, many of them have remained relatively small in comparison to the institutions' populations. According to Porter (1974) many programs remain in the incipient stages of development and

reach few students--about 2% of all college students are in cooperative programs.

Purpose of the Study

The purposes for the study were: to compare the relationship of work values of students who participated and those who do not participate in cooperative education programs; and to compare selected factors which potentially influence students' decisions regarding participation or nonparticipation in cooperative education programs.

Scope of the Study

The scope of the study includes:

1. Eleven institutions in a six contiguous state area.

2. Four hundred respondents - 200 cooperative education students and 200 students who declined the opportunity to participate in cooperative education.

Limitations of the Study

The study was limited to a population of cooperative education students and non-cooperative education students at 11 land-grant universities in six states. Subjects selected for participation in the study were those individuals identified by cooperative education directors. Only land-grant institutions were included in the study.

Additionally, the study used 12 different individuals to administer the surveys. While specific instructions were provided so that the collection of data would be carried out in the same way, it is possible that variations occurred in methods used by persons administering the surveys.

Respondents were limited to students majoring in engineering, business and related areas and computer science disciplines. This limitation was imposed upon the study because of insufficient numbers of cooperative students in other disciplines.

Factors not examined were the local conditions regarding institutional differences, job market and economic conditions in the various communities where the institutions were located and a multiplicity of other circumstances that potentially impact programs.

Definition of Terms

Cooperative Education - "The integration of classroom theory with practical experiences under which students have specific periods of attendance at the college and specific periods of related employment" (Collins, 1985, p. 5).

Cooperative Education Student (Co-op) - Those students who have selected cooperative education as an alternative plan of study and participated in one or more supervised work experiences (Collins, 1985).

Non-Cooperative Education Student (Non-Co-op) - Those students who had the opportunity, but have decided that they will not participate in cooperative work experiences.

Land-Grant Institutions - Keene (1975) defined land-grant institutions as those colleges and universities established under the Morrill Act of 1862 which provided grants of federal land to each state to be used to endow a public system of higher education.

Work - An activity or effort that results in and produces something of value. ". . . that activity that is performed in the occupational role" (Hall, 1975, p. 4).

Work Values - The objectives which people deem desirable and which are sought through occupational roles or work (Couey, 1977).

Values - Qualities which are regarded as intrinsically desirable and as desirable ends or means to ends; qualities which people desire and which they seek in the activities in which they engage, in the situations in which they live, and in the objects which they make or acquire (Super, 1978).

Occupation - That specific activity with a market value (marketable price) which an individual continually pursues for the purpose of obtaining a steady flow of income (Hall, 1975).

Alternating Plan - The co-op student totally leaves the campus for a period of full-time employment. The periods of full-time employment are alternated with periods of full-time academic study (Collins, 1985).

Parallel Plan - The co-op student is involved in concurrent part-time study and part-time related work. It allows for continuity of projects and consistent faculty/employee/employer interaction (Collins, 1985).

Definitions of Super's Work Values Inventory

Altruism - Work which enables one to contribute to the welfare of others.

Esthetics - Work which permits one to make beautiful things and to contribute to beauty of the world.

Creativity - Work which permits one to invent new things, design new products, or develop new ideas.

Intellectual Stimulation - Work which provides opportunity for independent thinking and for learning how and why things work.

Achievement - Work which gives one a feeling of accomplishment in doing a job well.

Independence - Work which permits one to work in his own way, as fast or as slowly as he wishes.

Prestige - Work which gives one standing in the eyes of others and evokes respect.

Management - Work which permits one to plan and lay out work for others to do.

Economic Return - Work which pays well and enables one to have the things he wants.

Security - Work which provides one with the certainty of having a job even in hard times.

Surroundings - Work which is carried out under pleasant conditions--not too hot or too cold, noisy, dirty, et cetera.

Supervisory Relations - Work which is carried out under a supervisor who is fair and with whom one can get along.

Associates - Work which brings one into contact with fellow workers whom he likes.

Way of Life - Work that permits one to live the kind of life he chooses and to be the type of person he wishes to be.

Variety - Work that provides an opportunity to do different types of jobs (pp. 8-10).

Assumptions

The following assumptions are made regarding the study:

1) Subjects from the same discipline and classifications possess similar academic qualifications,

2) The subjects are representative of the college age population of students from the same areas of academic study,

3) Twelve different individuals administering the surveys did not influence the outcome of the data,

4) The inter-societal variations are similar within the entire population of both cooperative and non-cooperative groups, and

5) Land-grant institutions have some commonality of institutional mission which fosters the partnership of work and education.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This chapter reviews relevant literature which supports the need for and provides a research base for the study. The literature review placed an emphasis upon cooperative education as a learning strategy which enhances the educational, personal and career development of students. Furthermore, specific attention was focused on work values and the relationship of these values to the decision making process of students as they prepare for the world of work.

The review of the literature was accomplished by conducting manual and computer searches of the following databases and sources: Education Resources Information Center (ERIC), Current Index to Journals in Education (CIJE), Resources in Education (RIE), Education Index, Dissertation Abstract International (DAI), Psycinfo, bibliographies, articles, Cooperative Education Information Clearinghouse and the card catalog. However, the literature on Cooperative Education came primarily from the Journal of Cooperative Education, with a smaller number of cooperative education research studies and articles found in other journals.

Education, Cooperative Education and Work

Society faces the task of equipping its population to function productively (Otto, 1986). Otto (1986) contends that the challenge to prepare people to be productive is greater than it has ever been. He further states:

> . . . The central message in the changing face of the work force is that increasing numbers of workers need to link productive work with learning. Accomplishing this objective has been the hallmark of the cooperative education movement (p. 24).

Otto (1986) goes on to say that the interrelationship between education and work affords students the best tools in preparation for tomorrow's dynamic world of work.

According to Barbeau (1985) during the late 1960s and early 1970s, students, parents, and employers raised questions regarding the relevance of college programs to situations in the "real world." Barbeau (1985) states:

> A great many potential graduates believed that they were ill equipped to face the problems of 'life after graduation.' They felt there was a gap between the preparation they received in college and the skills they needed to function as fully contributing members of society (p. 4).

Barbeau (1985) suggests that relevance keeps students enrolled, and relevance makes them productive members of society. Dromgoole (1987) concurs by saying that "thousands of parents and students are demanding an increased relevance in curriculum" (p. 9).

Herr, Dambrocia and Niles (1986) say that the rapid changes experienced in the American work force within the

past 10 years have left no part of the U.S. economy untouched. Herr et al. (1986) assert that cooperative education is a medium that has provided an opportunity for students to deal with knowledge required in the world of work and in the development of human relations skills. They state that "as a result, the value of cooperative education to the student is multiple because the experience extends beyond individual vocational and career parameters" (p. 32).

Wilson (1986) states:

> the employer alleges that education institutions are failing to perform their job because the graduates who come to them are ill-prepared and must be trained before they are truly employable (p. 75).

Wilson goes on to present the educator's point of view stating that the educators counter this assertion because knowledge is expanding so rapidly that there is no way they can adequately cover the field of study, much less prepare students for specific occupations. Wilson (1986) submits the view that this is where cooperative education assumes a special role in the solution for a very real curriculum problem. Along this same line of thinking, Robinson (1985) suggests that there is a natural interdependence of universities and industry. He further asserts that because the U.S. is faced with declining competitiveness in worldwide markets, companies and universities are looking for more effective bridges--both can benefit from interrelations by access to the experience and skills of the other.

Cooperative education has been acclaimed as a vehicle through which students can attain desirable educational, personal and career goals (Emry and Page, 1985; Weston, 1986; Duffey, 1985; Gordon and Heinemann, 1980; Martello and Shelton, 1981; Lieder, 1982; Koltai, 1982; Page, Wiseman and Crary, 1982; and Heinemann, 1983). This notion is supported by Andrews (1980) who believes that cooperative education is not among the new modes for delivery of post-secondary education which have emerged during the last ten years as nontraditional education. He says that for fifty years or more cooperative education has formally existed in such fields as engineering and is an accepted and essential component of the college and university curriculum.

Although many cooperative education authorities, researchers, faculty, practitioners, employers and students cite numerous benefits derived from cooperative education, student enrollments are yet low in many programs.

Porter (1982), Barbeau (1985), Wilson (1985), Lamb (1984) and Dromgoole (1983) all recognize that the growth of student participation in cooperative education programs has been relatively small nationally. Lamb (1984) asks:

> If the ultimate goal of the majority of postsecondary students is to obtain gainful employment after graduation and if cooperative education is the single most effective tool to ensure the attainment of this goal for both students and employers, why then are only two percent of our nation's college and university students enrolled in cooperative education (p. 4)?

The fact that this lack of growth of programs among students has been disproportional in comparison to the growth among institutions is indicative of a problem.

Historical Development of Cooperative Education

Cooperative education is a strategy of education which incorporates work, to be performed by students, as an integral part of the curriculum (Wilson, 1974). According to Heinemann, Wilson, Heller and Craft (1982) formalizing the introduction of work experience (cooperative education) in postsecondary school curricula is credited to Herman Schneider who instituted the first cooperative education program in the College of Engineering at the University of Cincinnati in 1906. Thus, the concept of cooperative education is not a new idea in American higher education (Heinemann et al., 1982).

According to Knowles (1971), Schneider sought to solve two problems that he had observed: first, he noted that many elements of most professions could not be taught effectively or at all in the classroom but rather required practical experience for adequate mastery. Second, he found that most students either needed or wanted to work sometime during their college careers; most of these jobs, were menial and unrelated to the students' career goals. Knowles (1971) goes on to say that Schneider's plan to alternate two groups of students on a weekly basis between

on-campus study and off-campus employment was a way of satisfying the needs of students for "state-of-the-art", to provide experience and opportunity to earn money. Knowles states:

> This innovative method of teaching came to be known as "Cooperative Education" because it was necessary to establish cooperative relationships between the institution and the employing agency (p. 4).

In 1909 Northeastern (the largest university with the greatest participation in cooperative education in the United States) adopted the cooperative education plan (Barbeau, 1985). According to Barbeau (1985), cooperative education remained primarily a program of the engineering disciplines until it was adopted at Antioch College, Yellow Springs, Ohio in 1921. Wadsworth (1976) reports that the Antioch plan was the first to include the liberal arts curriculum. Gotlieb (1981) says that a new direction for cooperative education came under the Antioch plan. He says that: "not only was this program first applied to students of a liberal arts institution, but a different philosophy was developed as well" (p. 6). Drawing from Barbeau (1973), he reports that at Cincinnati, emphasis of the program was on vocational guidance; however the emphasis at Antioch was not as much on the specific vocational skills that could be learned, nor the amount of money that could be earned, but rather on the importance of the work experience to the understanding of life. Heerman (1975) says that in 1922 the first junior college (Riverside Junior

College in California) began a cooperative education program in engineering, business, nursing, library science and architecture.

The historical chronicles of cooperative education show very little expansion of programs until 1960. Heinemann, Wilson, Heller and Craft (1982) report that in 1929 there were 10 colleges and universities with cooperative education programs. According to Heinemann et al. (1982) and Porter and Nielsen (1986), only 55 institutions started cooperative programs during the next 50 years.

Until 1965 there was no federal support for cooperative education. Barbeau (1985) reports that one of the significant events that occurred during the 1960s that had far-reaching effects on subsequent federal funding was President Johnson's Education Message to Congress in 1967. According to Barbeau (1985), Johnson stated:

> A number of our colleges have highly successful programs of cooperative education which permits students to vary periods of study with periods of employment. This is an important educational innovation that has demonstrated its effectiveness. It should be applied more widely in our schools and universities (p. 46).

According to Barbeau (1985), the President's statement gave impetus to congressional action and in 1968, amendments were passed to the Higher Education Act. Porter and Nielsen (1986) say that it became apparent to the National Commission for Cooperative Education (NCCE) that the cooperative education movement required greater resources to fulfill its vast potential. The NCCE decided upon a

strategy to seek federal financial support to advance cooperative education.

After two years of intensive work with members of Congress and the Office of Education, Title III of the 1965 Higher Education Act was amended to permit developing higher education institutions to use Title III money to develop cooperative education programs. Porter (1986) goes on to say that the NCCE managed to persuade Congress to amend the Higher Education Act of 1965 to authorize, under Title IV-Student Assistance, federal support specifically for cooperative education. Reflecting on the continued interest in funding, Porter (1986) goes on to reveal that in 1972, facilitated by NCCE testimony, money for cooperative education was appropriated for the first time. Consequently, a specific line item in the budget for Title IV-D was established. According to Porter this was the beginning of large-scale federal funding for cooperative education. This legislation established separate federal funding within the policy priorities of the federal government for cooperative education (Porter, 1986).

The chronicles of federal funding revealed by Porter (1986) show two other landmark events worth noting.

1) The NCCE recognized the importance of federal funding in the growth of co-op and decided to make even greater federal support of co-op a top priority, and

2) The NCCE worked to have the legislative language "full-time" deleted from the legislation.

According to Porter (1986) the efforts of NCCE met with almost immediate success. The federal government established separate Title VIII funding for cooperative education under the Higher Education Act of 1976. Other successes were reported by Porter (1986) which provided for large-scale funding and the legislative language to include parallel and extended-day programs so that students can work part-time or full-time on co-op jobs while attending school.

Porter (1986) reports that in 1978 the NCCE organized the Comprehensive Cooperative Education Program Task Force to develop a model for implementing comprehensive co-op programs within higher education institutions. Porter goes on to say that, "as a result, in 1979, Title VIII regulations were amended to encourage large-scale demonstration projects" (p. 65). Through this initiative institutional demonstration grants of up to 1,000,000 were possible (Porter, 1986). Porter concludes that Title VIII funding has had and continues to have a positive impact upon increasing enrollments in co-op programs. Lentz (1981) concurs, saying there is no doubt that federal funding has contributed too much of the interest and expansion of cooperative education throughout this country.

Heinemann et al. (1982) gave recognition to the growth spurt which came to cooperative education in the 1970s. According to Heinemann et al. (1982) the growth which occurred during the 1970s stemmed from the intervention of

the federal government. In addition to federal intervention, Barbeau (1985), Dromgoole, Nielsen and Rowe (1986) suggest that organizations and individuals served as catalysts to the development and growth of cooperative education during its eighty year evolution. These authorities agree regarding the following as being influential in the movement. They include:

1) The Cooperative Education Division of the American Society for Engineering Education (1930) - one of the most active in its support of cooperative education;

2) The National Commission for Cooperative Education (1962) - its purpose was to give assistance to institutions planning to adopt the cooperative education innovation and to disseminate pertinent information, and to provide assistance in enlarging and strengthening existing programs;

3) Cooperative Education Association (1963) - to carry out the traditional functions of a professional association; and

4) Charles Kettering, Research Director of General Motors and Chairman of Thomas Alva Edison Foundation - a strong advocate for cooperative education, among others.

Heinemann et al. (1982) point out that the Wilson and Lyons study, a national evaluation of cooperative education conducted in 1961, became the catalyst for expansion of cooperative education in institutions of higher education. Edison (1981) cites other studies that influenced

the increasing momentum in institutional adoption of cooperative education and encouraged program growth. They were: The Assembly on University Goals and Governance, Less Time, More Options: Education Beyond High School, and the Report on Higher Education. According to Edison (1981), these reports recommended that all colleges and universities initiate programs that involve off-campus work.

Dromgoole (1983) reports that during the past twelve years, the number of higher education institutions with cooperative education programs has increased to 1,047, with over 220,000 students participating in virtually every field of study. He goes on to say that one-third of the colleges and universities have cooperative programs; of this number 563 are senior institutions and 484 are community and junior colleges. Van der Vorm (1986) reports that in 1984, cooperative education students in the United States earned at least $1.05 billion in wages and returned to the federal coffers more than $133 million in Federal Income and Social Security Taxes.

Philosophy of Cooperative Education

The philosophy of cooperative education is simple and direct (Barbeau, 1985). Barbeau states: "There are parts of every occupation that cannot be learned in the academic setting that can be learned only by practice" (p. 65). Consistent with this notion, Collins (1985) points out that

Dean Schneider's concept of cooperative education was to weld theory and practice in order to maximize learning through academic work and practical application. According to Collins (1985), this philosophy is inherent in the definition of cooperative education. He states:

> Cooperative education is the integration of classroom theory with practical experiences under which students have specific periods of attendance at college and specific periods of related employment (p. 5).

Expounding on the importance of the cooperative education philosophy and its congruence to the institutional mission, Jabs, Jabs, and Jabs (1977) suggest that if a cooperative education program at a particular educational institution is going to be successful, it must endeavor to relate to and to implement the educational philosophy of that institution. Jabs et al. (1977) contend that every educational institution has a philosophy at the core of its existence and for a program like cooperative education to be legitimately accepted as an educational activity, it must be consistent with the goals and objectives of the institution.

Jabs et al. (1977) submit the notion that cooperative education fits well into the pragmatists' philosophy. They state:

> . . . According to pragmatism, the world is a dynamic field of interacting energies. Thus, man's transaction with his environment and his experience in solving life's problems is the basis for existence. Change is the essence of reality. Truth is what works. Knowledge is tentative and assessed in terms of practical concrete results. An idea is termed a plan of

> action. Since change is the essence of reality, man must be prepared to alter his way of doing things. Values are relative and changing. Reality is the sum total of what we experience (p. 80).

Jabs et al. (1977) go on to say that the student learns best when he grasps the relevance of what he learns to what he intelligently needs. He relates this to the notion that pragmatists reject the separation of knowing and doing, thinking and action, reflection and decision making, study and work. He posits that education that is "experience-based problem solving is learning by doing--and a person learns what he lives" (p. 80). Consistent with this notion, Miller (1985) asserts that supervised experience means interaction of learners with the world--"it is learning by doing" (p. 212). Miller states further that:

> The schools are responsible for building upon that experience by providing opportunities for interaction through new experiences--reconstructing experience by a growth in experience. Learning by doing is interaction and experience (p. 207).

Jabs et al. (1977) believe that all co-op programs are similar in that they bridge the gap between theory and practice, but means and ends vary due to the philosophical mission of the institution. He goes further by explaining that the success of the cooperative education program at a particular institution is determined by its adaptation into the philosophy of the institution.

Jacobs and Phillips (1979) say that the link between school and work has been strengthened by concerns emerging in modern society. A belief held by Jacob and Phillips

(1979) is that the land-grant movement was a catalyst for transforming higher education making it accessible to the masses and meeting the needs of all people. They state that: "The passage of the Morrill Act in 1862 provided for the liberal and practical education of the industrial classes in the pursuits and professions in life" (p. 8). Wilson (1984) concurs with this notion stating that: "The Land-Grant College Act of 1862 inspired greater curricular changes in America, which in turn produced highly trained technical personnel for industry" (p. 30). Wilson goes on stating that through this alliance "cutting edge" knowledge emerged which led to consultative arrangements with corporations.

The American Association of Land-Grant Colleges and State Universities reported in a published brochure The Idea of Land-Grant College, that the pioneers of higher education opposed 'closed-door' education, that there was dissatisfaction with traditional education that would do little to fit its beneficiaries to perform the kind of service demanded by change and expanding American society. The Land-Grant reformers argued that learning could be brought to the 'industrial classes', by which they meant nearly everybody who worked for a living. It states further that practical education was the "leading object", along with "liberal education that embraces all knowledge in service to all people." This as an undergirding principle inspired the founders of the land-grant movement.

Benefits of Cooperative Education

Students

Educators suggest that there are many benefits accrued to students who participate in cooperative education (Barbeau, 1981). Barbeau (1981) asserts that the work place and education are inextricably linked, and that education can no longer ignore trends in the marketplace. According to Pierce and Birmingham (1981), cooperative education enhances learning and work and brings the best of both worlds together, i.e., theory and application. They claim that at the same time co-op helps students to clarify and test their career goals. They suggest that students are able to see the important links between what they are learning in academics and what is expected of them in the marketplace.

Knowles (1970) reports that the major reason higher education institutions sponsor co-op programs and commit resources to them is to help students gain pre-professional experiences which cannot be achieved in the classroom setting. He explains further, stating:

> Every profession for which students are preparing contains certain knowledge elements that cannot be taught in the classroom. These elements can only be learned by students through direct, on-the-job experience, working with professionals who are already in the field. In some advanced professions, this requirement is met by the intern principle (p. 50).

The first major study regarding student benefits from cooperative education was conducted by Wilson and Lyons (1961). The Wilson and Lyons study was a comprehensive evaluation of the cooperative plan of education including the values sought by the programs, the means devised for attaining the values, and the extent to which the values were attained. Wilson and Lyons (1961) focused on four major areas:

- Alumni perceptions of how well they were prepared by their college for employment;
- The relationship between the co-ops and non co-ops and their employment;
- An appraisal of jobs held by co-op and non co-ops; and,
- The incomes of co-ops and non co-ops.

The objectives of the Wilson and Lyons (1961) study were grouped in two categories as follows:

1. Academic and career development to apply theory to practice, to provide vocational guidance, and to provide an orientation to the world of work.

2. Personal development to assist in the development of attitudes and skills conductive in effective interpersonal relationships, to assist in development of personal independence and sense of responsibility, to help students appreciate the value of education and increase motivation for education, and to afford the student a wider range of opportunities for cultural development.

According to Wilson (1971a):

> It became increasingly clear that cooperative education experiences contribute to the developing sense of worth of the student because, for perhaps the first time in his life, he relates to adults as an adult, and because he learns important lessons about relating to other persons from different backgrounds. . . . Because it places the student in new and challenging situations, demanding of him new efforts and new modes of behaviors, cooperative education makes a strong contribution to the growth of the individual student in his personal development, his social development, and his career development (p. 5).

Wilson and Lyons (1971a) concluded that theory and practice are more closely related for co-op students than non co-op students; that co-op students experience a better understanding of other people and develop better human relations skills than non co-op students because of the significant contact in the work place. Chase (1969) profiles the differences between cooperative education students and those unsatisfied with their education. His findings suggest that cooperative education was an obvious means for responding to a student's demand for relevance. Wilson (1974) conducted a study of 456 Northeastern University Liberal Arts undergraduate students. According to Wilson (1974):

> Cooperative education students, in contrast to those students not participating in the program, perceive greater personal changes since entering college, particularly in the area of career development (p. iv).

The principal findings are:

1. Cooperative education students, in contrast to those students not participating in the program, perceive greater personal changes

since entering college, particularly in the area of career development.

2. There is a consistent and clear trend, inferred from the results of comparison across classes, within the cooperative education group to perceive greater personal change as they progress from freshman to senior.

3. The most important agent of change for both groups was perceived to be general maturity, but almost as important for the cooperative sample, but not the control sample, was work experience. Work experience became increasingly important for the upperclass cooperative education student.

4. As freshmen, substantially more cooperative students were unsure of their career goals. As upperclass students, they did not differ from the non-cooperative students with regard to having made a career decision but they more frequently selected non-service careers.

5. Cooperative students put a high priority on career establishment. By contrast, the non-cooperative students put a high priority on personal well-being.

6. The attitudes of both samples of students toward people generally, minorities, women and society-as-a-whole were very similar. Essentially, they think positively of people and trust them, recognize the existence of discrimination against minorities and accept the need for concerted efforts to solve racial problems, believe that women should be treated equally and view our society as too materialistic.

7. Although the social and humanistic attitudes of the cooperative students are similar to their non-cooperative peers, they evidence more conservative, cautions and prudent judgment. This was interpreted as a consequence of their involvement in practical, adult work experience. This is especially the case in situations that might affect their own career prospects.

8. The overall evidence is that the cooperative work experience has a considerable impact

> upon student development during the college years, particularly in the area of career development (pp. v, vi).

Baker (1975) studied differences between co-op and non co-op students at the University of Houston regarding attitudes toward job satisfaction and work adjustment. It was concluded that the co-ops were better adjusted to the work environment and that they maintain a more positive attitude towards employer, boss and co-workers.

Another nationwide assessment of cooperative education was conducted by the Applied Management Science (AMS) in 1977. This assessment was mandated by Congress for the purpose of securing "hard data" to determine guidelines for future congressional decisions. The study was designed to measure benefits of co-op to students and to assess the role of career education in cooperative education programs. According to AMS (1977) eighty schools and 8,815 respondents participated in the study. AMS reports that respondents included cooperative and non-cooperative education students from the same academic programs. It was further reported that the characteristics of the two groups indicated that they were similar in age, income, parental educational level, grade point average, marital status and race.

The findings from the AMS (1977) study are as follows:

1. Cooperative education contributes significantly to the career preparation of students.

More students enrolled in cooperative education programs, as compared to their non-cooperative education counterparts, perceived that their job skills improved as they advanced through their undergraduate programs. In a similar comparison, as they approached graduation, more cooperative students had a clearer and more specific sense of their career objectives than did non-cooperative students. The findings also showed that cooperative education contributes to after-graduation employment, to a more direct relationship between college major and full-time after-graduation employment, and a more direct relationship between current job and career plans.

2. Cooperative education is a mechanism for student financial assistance.

The large majority of students enrolled in cooperative education programs are compensated for their work and, therefore, for them cooperative education is an income producing activity. This income legitimately may be viewed as one kind of student financial assistance. This was found to be of paramount importance for approximately one-third of the students and was particularly true for large proportions of certain subgroups within the student sample, specifically minority and economically disadvantaged students. For the majority of students and institutional personnel, however, the financial assistance aspect of cooperative education was secondary to its educational advantages.

3. Cooperative education is cost effective for students.

Analyses were performed comparing the costs and benefits resulting from the following decisions: To go to college or not, to attend a baccalaureate degree or an associate degree granting institution, to participate in cooperative education or not. The net effectiveness over a long period of time showed that the financial returns in relation to the costs expended are greatest to an individual who goes to college, attends a four-year institution, and participates in a cooperative education program.

The superiority of cooperative education was especially pronounced in the baccalaureate degree programs. In addition, it was found that a five-year cooperative program was more cost effective than a non-cooperative four-year program. The cost effective dominance of cooperative education was less clear and consistent in associate degree programs. The data further showed that cooperative education in professionally directed curricula, such as business and engineering, were more cost effective than programs in liberal arts curricula. The greater cost effectiveness of cooperative education was further substantiated by the taxable income received by cooperative students, the shorter periods of unemployment experienced by its graduates, and the greater life-time earnings of its graduates (pp. 3-4).

Couey (1977) conducted a study of senior cooperative and non-cooperative education senior engineering students

at Auburn University using Super's Work Values Inventory. Couey (1977) found no difference between the two groups on 14 of the 15 Work Values Inventory variables. Couey found the two groups differed only on the independence scale and appeared more similar than dissimilar. He concluded that work values of engineering students are similar whether or not they chose cooperative education and that the work values they hold do not influence their choice, nor did it affect their work values.

Epting (1980) surveyed cooperative and non-cooperative engineering graduates' cumulative grade point averages, perceptions of job satisfaction and importance of job characteristics relative to the amount of cooperative work experience from 1973-1978. He found that cooperative education graduates received higher starting salaries when compared with the starting salaries of non-cooperative education graduates; co-op graduates with a year or more of cooperative work experience and higher grades; non-cooperative education graduates ranked the importance of security needs higher than graduates with cooperative work experience. Epting concluded:

> It is possible that cooperative work experience gives participants more relevance between theory and practice and allows them to become more self-directed and motivated as they pursue their individual goals (p. 57).

Edison (1981) conducted a study of co-op and non co-op alumni from Central State University and Wilberforce University in Ohio, between 1971 and 1979. Edison's findings

revealed that cooperative education alumni tended to work in private companies, earn more income, have more job promotions and salary increases than the Wilberforce cooperative education alumni and Central State University non-cooperative education alumni. Edison's study showed another important finding: it was revealed that the cooperative education alumni from the mandatory program at Wilberforce earn more money annually than the cooperative education alumni from the optional program at Central and the non-cooperative education alumni at Central.

Krongold and Dube (1982) reported results from survey studies conducted at Pace University during 1981-82. They reported that cooperative education increases student enrollments, leads to permanent after-graduation career placements, helps students finance their education, and provides students with experiences to complement their academic coursework.

Duley (1984) discusses participation in and benefits from experiential education pointing to egalitarian values, which not only open college and university doors to include an ever-widening group of aspirants but require a curriculum that is more readily relevant to the lives of students. Duley (1984) suggests that elite scholarly value of knowledge for knowledge's sake, while still important, is not necessarily the priority of students today, and that many students realize that "knowledge is not undimensional, but multidimensional and acquirable by more than one method of

learning" (p. 19). Duley (1984) argues that theory without practice completes only half of the learning essential to education suggesting that cooperative education allows students to apply knowledge gained vicariously in the classroom and to develop action-oriented skills.

Students such as Hershey (1982), Welch (1982), and Thompson (1984) have applauded the benefits derived from participation in cooperative education. They believed that it enables them to know themselves realistically, and their values and commitment to life through exposure to and confrontation with values and culture different from their own. Conroy states: "They (students) are able to draw from the philosophy of functional education, in that they 'learn by doing'" (pp. 69-70).

Ross and Marriner (1985) reported benefits they believed that co-ops draw from the humanistic concept, in that education becomes personalized through the students' free choice in real-life situations. According to Ross and Marriner (1985), benefits of cooperative education reported by their students are as follows:

> (a) they developed increased motivation for learning; (b) they were able to perceive numerous connections between the theory and application; (c) the work experience contributed to their sense of responsibility for their efforts; (d) they experienced greater independence in their judgments and a corresponding development of maturity; (e) they were able to discern the importance of orientation to the world of work; and (f) they had opportunities to earn money to defray the cost of their education (p. 178).

Ross and Marriner (1985a) further state that testimony of students and graduates of cooperative programs demonstrates the value of the co-op experience in developing attitudes and skills essential to becoming a well educated person.

Foster, Franz, and Waller (1986) conducted a study at Missouri State University to examine job satisfaction of graduates who have participated and graduates who have not participated in the cooperative education program. They concluded that the co-op experience is a maturing element affecting the location factor which is significant in determining job satisfaction.

Numerous other studies such as those conducted by Wadsworth (1976), Garner (1980), Heller (1980) and Jabs (1984) show that learning laboratories outside the walls of the academic institution enrich the curriculum; provide students with increased self-confidence, self-respect and ability to work independently; improve motivation, which provides for more meaningful study; improve grades and learning; enhance career opportunities and thus provide for a smooth transition between school and the world of work.

Faculty

Although faculty involvement is viewed as one of the three key components to successful co-op programs, it has been and remains one of the most difficult to develop (Knowles, 1971; Heerman, 1975).

Knowles (1971) suggests that one of the difficulties encountered in cooperative education programs over the years has been the lack of support, and at times outright hostility, toward the system itself on the part of some faculty members. This hostility is often manifested in faculty members openly discouraging students from participating in the program.

Heerman (1975) recommends including faculty in the initial planning, particularly as it relates to their specific area of responsibility. He suggests:

> Continuous participation by the faculty will enhance their understanding and provide opportunities to creatively adapt their instructional approaches to the new system. Further, effective communication is an imperative. Coupled with these things should be proper orientation and in-service training, thus helping faculty to recognize the invaluable resource in maximizing both classroom theory and the work experiences (p. 48).

Studies by Stull (1980), Homer (1981), and Stull and de Ayora (183) regarding faculty involvement in and benefits from cooperative education report that less than 50 percent of cooperative education programs had faculty members who were involved in the coordination of students. They reported further that faculty surveyed ranked facilitation and enhancement of learning in the classroom as the greatest benefits of the program.

Stull (1981) reported fifty issues facing cooperative education programs; five of these dealt with responsibilities, professional development, salary, promotion and tenure. According to Stull (1981) "these data suggest a

need for a better reward system, training, involvement in planning and better communication" (p. 98).

Brocksbank (1981) argues another point of view calling it the "jugular vein," stating that the critical issue in achieving future performance gains in co-op will depend on alleviation of the apathy or active opposition of our own faculties. He further stated that:

> Faculty are suspicious of business--about letting it intrude into their hallowed halls--about letting their best students flirt with the devilish and enticing world of commerce (p. 37).

Brocksbank (1981) contends that:

> Many faculty are naive about the business world, innocent of the way theory enlivens practice and how practice illuminated theory; that faculty believe cooperative education is only for 'hewers of wood' and 'drawers of water'(p. 37).

Curriculum

Heller (1980) states that "Cooperative education has been acclaimed by many leading educators as an innovative educational strategy which brings relevance and enrichment to the curriculum" (p. 2).

Gotlieb (1981) in his dissertation on important issues in cooperative education draws on several studies and points out that the relationship between the goals of cooperative education and those of the liberal arts disciplines are among the most widely discussed in the literature. Gotlieb (1981) suggests that an exploration of careers and the world of work can be enlightening for the individuals. He implies that students are encouraged to assume and take

greater responsibility for themselves, which affects them and others around them. Gotlieb (1981) further explains that the co-op experience can lead to an increased appreciation for the value of general education requirements. Gotlieb (1981) concludes that students participating in co-op gain greater competence in interpersonal relationship skill, often with a change in attitude, especially toward learning.

Newman (1985) reports that higher education in the United States is entering a period of questioning of its purposes and its quality. He argues that it must be even more effective if it is to meet the needs of this country in the decades ahead. He further believes that students must become more actively involved in their own learning and opportunities for actively involving students are to be found beyond the academic campus. These opportunities are found in provision of related experiences through cooperative education.

Institution

The Directory of Cooperative Education (1978) cites the following benefits accrued to institutions involved in cooperative education:

> The establishment of a relationship with the co-operating organizations can reduce the 'isolationism' of the college and result in a better rapport with the commercial community.
>
> The faculty of the institution can be kept up-to-date and stimulated by the events which transpire

> in the daily life of the cooperative student and which can be brought to the classroom by the student.
>
> The student in industry has the advantage of using facilities and equipment of the most modern sort. It is sometimes too costly for the college to supply equipment of either a specialized nature or of recent vintage.
>
> The placement of graduates of a cooperative program is much easier for the college because of their background of experience.
>
> Fund-raising activities are often aided substantially by the contributions of organizations participating in the school's cooperative program, as they recognize the benefits of their involvement with the education institution through the cooperative program.
>
> As cooperative students can alternate on a year-round basis, the college physical plant can be used more efficiently with the attendant advantage that more students can be accommodated with the existing facilities.
>
> Institutions which are well-known for their cooperative programs tend to interest that student who finds such a program attractive. This can have a positive effect on applications to the college and total enrollment (p. 15).

In a study conducted by Applied Management Sciences (AMS) in 1977, cooperative education constitutes a program cost for institutions of higher education. According to AMS (1977) the most important reasons for supporting cooperative education within the institutional community were because of its potential for integrating academic development and career development and because cooperative education has the potential for enhancing student motivation. Other identified values to the institutions include the opportunity to expand senior placement, update curricu-

lum, expand enrollments, secure other sources of funding, and utilize space and faculty more efficiently.

AMS (1977) reported further that the average net institutional per student costs was estimated at approximately $220 per year for the institutions sampled. As programs approached an enrollment of 220 students, they became a net financial benefit to the institutions. Since estimates indicate that 80 percent of all cooperative programs are smaller than this, it is concluded that for most institutions cooperative programs are not currently self-supporting.

Koltai (1982) states:

> There is undeniable evidence that higher educational institutions stand to benefit from cooperative education. These benefits are greater than any liabilities incurred. The fact that no university (no matter how large or rich) can possibly expect to replicate in its entirety the modern high technology industrial environment is a case in point. Even if a university could do this it would be outdated by technological advances within a few years. This is especially true considering the fact that new technical knowledge doubles itself every eight years (p. 11).

Koltai goes on to say:

> In order to initiate effective institutional/industry (co-op) relationships there is a need for better communication. There is additional need for better curriculum configurations that are constantly updated to reflect the state-of-the-art. With these things in place, a closer relationship between universities and business can exist (p. 12).

He concludes indicating that new bridges can be developed which will enhance sharing of resources, information and even facilities.

As for institutional benefits, the AMS (1977) study suggests that the saturation point has not yet been achieved and the incentives for expansion of co-op far outdistance any of the hindrances.

The AMS (1977) study provides ample evidence of the existence of potential incentives for the adoption and expansion of cooperative education at institutions of higher learning. AMS reports data showing that cooperative education has particular merit as a strategy of career education, that institutions with cooperative education have a higher rate of graduate placements than institutions without cooperative education, and that cooperative education enhances the total financial aid efforts of the institutions.

Business and Industry

The national assessment conducted by Applied Management Sciences (1977) reports benefits identified by employers who participate in cooperative education. According to AMS (1977) cooperative education education offers employers the opportunity to fill regular and important jobs in the sub-professional categories. They observed that cooperative education students are as productive and often more highly motivated than regular employees. Through cooperative education they can identify and recruit future full-time employees from student ranks. Those recruited in this way are found to be good employees and are often regarded more

highly than other full-time employees recruited by different means. Cooperative education offers employers the additional advantage of relating in a positive manner to the community and to the institutions of higher education within that community.

The report goes on to say that in a qualitative sense it was possible to compare the costs and benefits of cooperative education to employers. Overall, the additional costs experienced by employers in hiring cooperative students as against regular employees were modest. AMS (1977) reports that the only appreciably greater costs were the one time start-up costs and those costs associated with evaluating cooperative students. Wages, fringe benefits, supervisory and training costs, and union negotiating costs were essentially the same for both cooperative students and regular employees. On the other hand, benefits, as expressed in terms of student productivity, identification and recruitment of future full-time employees, and community relations, were great. AMS (1977) finds: "Of the employees surveyed, 96 percent indicated that they planned to continue their cooperative arrangements with the institutions" (p. 4).

According to Wiseman and Page (1983), cooperative education can be correctly viewed as "a non-zero-sum game of the 'win-win' type i.e., through participation in cooperative education both students and employers receive recog-

nized payoffs or benefits" (p. 45). Nielsen and Porter (1983) report that there are over 60,000 employers who have cooperative education programs. They report findings drawn from several major studies, showing overwhelming evidence that co-op is cost effective for employers. Nielsen and Porter (1983) state: "Employer co-op education programs may be very good and unfortunately too well kept secret" (p. 21). The report further states: "Most corporations consider college graduates with co-op experience competitive with master's degree graduates with no work experience" (p. 11).

According to the results of studies reported by Nielsen and Porter (1983), "Evidence suggests overwhelming costs benefits for employers who conduct cooperative education programs" (p. 12). Porter (1983) reports on studies conducted under the auspices of the Task Force of the National Commission for Cooperative Education and the Ford Foundation. Members of the Task Force represent business, labor, foundations, nonprofit, government, and institutions of higher education. The studies examined employer benefits from cooperative education involvement. Their findings included the following:

(1) Recruitment Costs - averaged sixteen times more to recruit recent college graduates as opposed to co-op students.

(2) Recruitment Yields - in terms of persons hired, as a percent of candidates interviewed, was thirteen times higher for co-op students (40%) than for recent college graduates (3%).

(3) EEO Objectives - the percentage of minority group members hired was twice as high among coop students (33%) as among recent college graduates (16%).

(4) Labor Costs - coop students received lower salaries and fewer fringe benefits than recent college graduates. Total labor costs averaged 40% less for coop students than for recent college graduates.

(5) Supplemental Costs and Benefits - more flexibility in assigning work to coop students than to college graduates; better relationships with schools; regular staff members freed up from more basic aspects of their jobs to work on more demanding and profitable requirements.

(6) Work Performance - ratings based on a scale of 4.00 for excellent, averaged 2.82 for coop students, 2.89 for recent non coop graduates, and 3.03 for coop college graduates.

(7) Salary and Promotional Progression - coop graduates received merit raises in salary more frequently than non coop graduates. Coop graduates received an average of one promotion every two years, compared to once every three years for non coop graduates. Coop graduates received more promotions to supervisory positions, and they received them sooner than non coop college graduates.

(8) Employee Retention - 62% of graduating coops received permanent employment offers from their coop employers, and 79% of those offers were accepted. Employer retention experience with former coops versus non coop graduates in after-graduation permanent employment status revealed that the termination rate (voluntary and involuntary) of former coop graduates (22%), and the average length of time worked before termination was greater for the coop student (pp. 15-16).

Porter (1974) believes that employers hold the key to the expansion of cooperative education. He implies that there can be no cooperative education program without employer participation; the employer is a key ingredient in the triad and benefits accruing to the employers are major

inducements to join into the partnership. Porter (1974) suggests that values such as recruitment of excellent candidates for future employment needs, access to a pool of highly motivated employees, prior evaluation of prospective long-term employees in actual working conditions, and attraction of prospective permanent employees and students who return to campus as goodwill ambassadors, thereby improving the company's public relations and visibility, will improve employers' involvement in cooperative education programs.

Growth of Cooperative Education Among Higher Education Institutions

Growth of cooperative education among institutions of higher education in the United States is acknowledged extensively in the literature by such authors as Knowles (1981), Heerman (1973), Wilson (1978, 1984, 1985, 1986), Collins (1986), Barbeau (1985), Davies and Carr (1984), McMullen (1982), and Dromgoole (1986, 1987). Knowles (1971) stated that "cooperative education is in a period of very rapid growth, with most of the programs initiated during the past five to seven years" (p. 4). Heerman (1973) reports that approximately two thirds of the cooperative education programs begun between 1961 and 1970, and more than one fourth were started between 1971 and 1972.

Wilson (1978) says that during the decade beginning in the 1960's, cooperative education experienced phenomenal

expansion in colleges and universities. Heinemann, Wilson, Heller and Craft (1982) report that through the efforts of NCCE, as well as in response to the turmoil in higher education of the late 1960's and early 1970's, many colleges and universities were attracted to cooperative education. By 1970 the numbers of colleges tripled, as 200+ institutions offered programs of cooperative education. According to Heinemann et al. (1982) with the intervention of the Federal government another growth spurt occurred in the 1970's. They report that according to the Cooperative Education Research Center at Northeastern University, in 1980 there were 1,028 programs in operation. Dromgoole, Nielsen and Rowe (1986) concur with this finding indicating that one-third of all institutions of higher education in the U.S. had adopted co-op programs.

McMullen (1982) conducted a study to determine how the 1980-81 co-op student enrollments were distributed among major academic areas for the entire co-op student population. He reports that 1977 to 1979 was a major turning point in the growth of cooperative education. McMullen (1982) goes on to say that the number of co-op programs and the total co-op enrollment, during the period 1970-1977 were, respectively, increasing at an average of approximately 121 programs and 23,571 students per year. He states further that these same growth rates from 1977 to 1981 indicate an approximate decrease of nine programs per year, and a total increase of only 1,275 students per year.

According to McMullen (1982) the data suggest a slight tendency for program number and size to assume an inverse relationship during the latter period. He states: "The general trend of the development of cooperative education appears to have reached a plateau since 1977" (p. 50). McMullen (1982) conducted a study which provided estimates of co-op student enrollments in 12 curriculum areas for the total co-op population and seven stratifications of that population. He reported that Business and Engineering curricula contain the largest co-op student enrollments; approximately 40 percent or more of the total number of estimated co-op students for the majority of the stratifications categories analyzed were enrolled in Business or Engineering fields.

Porter and Nielsen reporting on supportive activities of the National Commission for Cooperative Education to the cooperative education national community addresses the concern regarding lack of program growth. They state: "it was noted that most institutions had relatively small programs of less than one hundred students each" (p. 65). According to Porter and Nielsen (1986) the National Commission for Cooperative Education was formed by and has served the cooperative education community as a special form of "positive externality." They suggest that a national campaign, an initiative of the NCCE in collaboration with the Advertising Council a private, non-profit organization

which conducts public service campaigns will reach virtually every person in the United States. Along with other efforts to increase public awareness of cooperative education, Porter and Nielsen (1986) believe that co-op professionals across the nation will become more sophisticated and aggressive in both the internal and external promotion of their programs, and the best kept secret in education over the last eighty years--cooperative education--will at last be unlocked and positioned to assume its rightful place in the mainstream of the American educational experience.

Lack of Enrollment Growth in Cooperative Education Programs

Many proponents of cooperative education such as Knowles (1973), Porter (1974), Wilson (1961, 1974), Applied Management Sciences (1975), National Commission for Cooperative Education (1978), Heller, Senf and Vogl (1980), Garner (1980), Rowe (1980), Weinstein (1980), Weston (1983), Testa (1984), and Ross and Marriner (1985) cite numerous values accrued to students who participate in cooperative education programs. Yet, despite these values there is a lack of growth of co-op among students in recent years. This lack of growth is recognized in the national education community by prominent co-op advocates such as Porter (1974), Barbeau (1985) and Dromgoole (1983, 1986, 1987).

Porter (1974) addresses the issue of student involvement in cooperative education. He reports that over the past twenty years, the National Commission for Cooperative Education has been active in the expansion of cooperative education. Largely through Commission initiated efforts, the number of institutions of higher education that have adopted co-op programs has grown to approximately 1,000. This represents one-third of all institutions of higher education in the U.S.; it should be noted that many of the programs remain in the incipient stages of development and reach relatively few students. Altogether, only about 200,000 postsecondary students, or two percent of all college students, are in cooperative programs. Palkot (1978) concurs stating that of the 1,000 and more institutions offering cooperative education programs, only a few are fully operative in all disciplines and many are marginal in their scope.

The U.S. Office of Education in cooperation with the National Commission for Cooperative Education convened an Ad Hoc Committee--A Task Force on Cooperative Education in 1978. According to A Working Paper on Cooperative Education (1978), the purpose of the meeting was to take a critical look at cooperative education--what it has accomplished, what its role will be in the future, and how it can contribute to solving some of the nation's major problems, including future educational and manpower needs. The report further revealed that although a large number of

programs have begun, many of them have remained relatively small in comparison to the institutions' student populations. Therefore, cooperative education has yet to fulfill Congress' vision of it as an important alternative to traditional higher education.

Heinemann, Wilson, Heller and Craft (1982) pointed out that data on cooperative education programs underscored a major concern about many of the programs. While there had been a very dramatic increase in the number of programs, the number of students involved in any one program remained relatively small.

Moyé (1979) addressing the 15th International Conference for Cooperative Education states:

> We have nine million people attending college, and yet the nagging question persists: Is the classroom so isolated from the real world that education for most is inadequate for citizenship and self-fulfillment (p. 7).

Moyé states further:

> I am left to wonder why after all these years and with a considerable amount of funding support from the federal government most programs are small, and why the student population enrolled in programs has not multiplied dramatically (p. 8).

According to Homer (1987) cooperative education reached its peak growth in the late 1970's.

Concerned for the lack of significant growth of cooperative education among students in recent years, Brocksbank (1981) says that co-op is stuck on a plateau. He implies that neglect by administrators, apathy in business,

apathy among students and even serious opposition from faculties are some of the causes for lack of student growth.

Barbeau (1985) asks:

> If cooperative education provides so many answers, why is it that fewer than half of the colleges in this country have adopted this innovation, and in those that have, why is the cooperative concept used on so limited a basis (p. 69)?

Similarly, Dromgoole (1987) suggests that cooperative education funding is in danger because many in cooperative education have not been able to demonstrate any significant expansion of cooperative education within our colleges after the federal funds have disappeared. Dromgoole goes on to say that if the concept is so good and so timely, then why has it not grown at a faster rate? Porter (1986) concurs stating that most institutions maintained very small programs of fewer than 100 students each.

Work and Work Values

According to Miller (1985), work has been a part of the American scene since its founding. "The ideals of the Protestant Reformation and Calvinism which proposed that work is good and leads to salvation, were a part of the doctrine of many of the first settlers" (p. 91). According to Miller (1985), work is considered "the American ideal; work is a standard for success--a mark of vitality and purpose-fullness" (p. 91).

Peters and Hansen (1971) state: "It is through work that one achieves identity; that work provides the princi-

ple means of social interaction in our society" (p. 4). He states further that "work which is fulfilling is seen as one of the agents which permit transcendence into individuality, and emergence into the community of man" (p. 25). It is within this context that we view work "as an integral and necessary part of human life--which meets certain intrinsic and extrinsic needs of human beings (Miller, 1985, p. 92).

Work is one of the chief means of self-discovery, a kind of testing through which we discover our capacities and our limits (Trites, 1975). In this context, Reichel, Neumann and Pizam (1981) suggest that knowing the values which motivate an individual, and having information concerning the values which are most readily realized in various occupations and work settings, have an important basis for decision making. They believe the relationship between work and personal values has emerged as a promising area for research, and that knowledge of and an understanding of the congruence between personal values and satisfaction on the job is essential in matching the individual with occupations which will improve successful performance on the job.

Fitzgerald (1986) says that:

> Americans have charged the educational enterprise with preparing young people for the transition to adulthood, a transition which more and more has come to mean the movement from school to work--implicit or explicit acceptance to this notion is that the purposes of education is to prepare students to function successfully in society, i.e., to work. Strongly supporting this notion is a

> solid body of empirical evidence which supports the fact that education is related to occupational attainment (pp. 256-257).

Consistent with this assertion is the notion suggested by Richmond (1985) that the more a person's activities, interests, and values find ready outlets in the full range of his or her activities, the more successful and satisfied that person will be in his or her career. He further postulates that the importance of defining values in work is the foundation for effective occupational choice, ". . . which enables one to order current achievement with reference to the future. . . and the effective linking of present action to future objectives" (p. 87).

Wheeler (1985) conducted a study to assess values in all aspects of an individual's life-style for use in career-life planning, using Super's Values Scale and Salience Inventory with community college students. Wheeler (1985) suggested that educators should consider techniques that will help both older and younger clients expand their awareness of career possibilities. He further suggested incorporating assessment instruments that can be used to help clients recognize how they perceive their world, in what environment they work best, and how they interact in their interpersonal relationships. The study concluded that there were more similarities between men and women than there were differences in terms of values, motivations, needs and goals in equivalent situations.

A similar study conducted by Wheeler (1985) examined male and female college students majoring in business to determine perception of the rewards desired in an occupation, the rewards perceived to be available in an occupation, and the perceived match of abilities to those required in an occupation. The findings indicate that females are very similar to males in their perceptions of desired outcomes in relation to those available in an occupation. Wheeler (1985) posited that individuals choose an occupation that relates to their value system, and that the factors leading to this choice are stronger than differences in values that may result from differences in sex.

Wheeler (1983) compared self-efficacy and expectancy models of occupational preferences for college males and females and found that both the expectancy and self-efficacy models of occupational preferences among college males and females are applicable. Wheeler (1983) noted that the self-efficacy model stresses the personal perceptions of the individual's capacities to perform in different occupations, while the expectancy model relates to the individual's capacities to perform in different occupations, and the expectancy model relates to the individual's work values and the availability of desired rewards in different occupations and occupational preferences. The major implications from the study showed that differences in occupational preferences of males and females exist, and

that these differences are related to self-efficacy perceptions.

Lynton (1984) focuses attention on the importance of this issue. He states: "There can be general agreement on the paramount importance of helping students to understand that just about every decision involves values" (p. 105). With this in mind, Lynton (1984) goes on to say that choices among competing goals and purposes require the application of subjects' values. In other words, he says, the actual choices facing the individual are not always clear, and even the most mundane situations involve a trade-off among competing values.

Harshman (1978) describes a project entitled "Career Oriented Value Education" (COVE). He suggests that an internship is an integral part of the program which involves the community more closely with the university and helps students to be more aware of the work environment before making career choices. Harshman (1978) supports the belief that career and value development is a lifelong process, and that the college years represent a particularly important period for facilitating development through intervention. He states:

> Some faculty members initially viewed the project with suspicion. Indicating that career orientation smacked of vocationalism, and others feared that it violated the traditional liberal arts (p. 173).

Harshman (1978) concluded:

> That the molding of values and career issues, though difficult was a major concern by students'

> selection of programs and as reflected by employment statistics and by curricular innovations across the country. The basic premise underlying all the endeavors of Project COVE is that human development has many aspects, many of which can be facilitated by an educational environment sensitive to them, offering the student a variety of opportunities according to individual needs, i.e., . . . educating the whole person for a productive life (p. 174).

Other researchers express concern for students' changing values--as noted in the case study conducted by Caccese (1983). Convinced that major changes are occurring in the underlying values that students hold, he focused on students' changing values. Caccese (1983) suggests that values shifts are going to have profound effects on the practice of experiential learning programs of all types. He further noted that while many of one's strongest value positions are formed early in life as a result of family environment and childhood experiences outside the home, still personal values are modified and revised throughout life. Caccese (1983) suggests that there are challenges and threats to cooperative education, because of changing values and students. He believes that educators must learn how to increase students' understanding about themselves and their world and to assist faculty in the education of learners by providing increased diversity of experience, a wider range of learning options via cooperative education or other forms of experiential learning.

Wirth (1984) submits a proposition for simultaneously redesigning two critical institutions--work and education--in ways congruent with the values of a conserving society.

He further asserts that work is critical because it involves the ways we relate to the world to produce survival materials, and education is a major means to effect changes in attitudes and values. He contends that "changes must happen simultaneously because values taught by educators are vitiated if practices in work contradict them" (p. 8). The notion of redesigning education and work is supported in part by Jacobs (1979) and also by Toffler (1980) in his treatise "The Third Wave." Toffler's analogy of the second wave where emphasis was placed on the Protestant Work Ethic which encompassed thrift, toil, and deferred gratification, channeling the energies of people into economic development tasks, will dissipate as the third wave of technology, revolutionizing the energy bases, family structures, and the nature work takes place. Toffler (1980) states: "In this process, people's attitudes and values will be modified. As societal needs are transformed, educational needs will also be transformed" (pp. 234-235). He further predicts that more learning will occur outside of the structural classroom, and that there is already a profound change seen in personality traits of workers.

In the literature of cooperative education there is substantial documentation of student outcomes by authorities such as Witucke (1986), Rowe (1980), Foster (1986), and Heinemann (1983). These individuals along with others cited in this section reveal that dramatic and positive

changes do occur when students participate in cooperative education programs suggesting that this mode of learning, though not a panacea, is a vehicle for reconciling some of the inadequacies in our present educational delivery system.

According to Heller (1979), cooperative education work experience is significant since it establishes and reinforces behavior patterns toward work and influences career development. She states: "The data strongly suggest that what students experience in an initial co-op job can determine subsequent attitudes toward work" (p. 132). Heller (1979) asserts that the first adult work experience assumes important meaning. Heller believes that cooperative education programs can build on experiences that complement the strengths and weaknesses of individual students and can provide planned systematic events that assure the student of a comprehensive, realistic picture of the working world.

Other Literature

According to Heller (1980), cooperative education, in a real sense, is a dual discipline--"a combination of experiential and traditional educational theory" (p. 2). Enumerating benefits to students she cites "Improved academic averages, lower attrition rates, greater sense of independence and responsibility, more relevant and better employment opportunities after graduation" (p. 1). Heller (1980) shows that students who participate in cooperative

education experiences differ from their non-coop counterparts.

Winn (1980) states:

> Because life is not a compartmentalized/departmentalized slice of pie, the most important task of the university lies not in training for entrance to a particular marketplace at a particular point in time. Rather, its most important mission, and this despite the vagaries of the marketplace, is education for a life of meaningful change and cultural richness (p. 687).

According to Winn (1980) to achieve this orientation for life advocates believe that students should become more involved in their own educational pursuits. Kholer (1981) concurs stating that "the best learning usually occurs when students are motivated by present needs, when they see the link between what they study and what they do" (p. 426). She also advances the notion, held by many cooperative education advocates, that by prolonging opportunities for young people to take initiative for their education denies them the chance to discover one's self, ". . . asking them to prepare for a nebulous future without allowing them an immediate role in society" (p. 426). Winn (1980) states: ". . . asking them this undermines their self-esteem, cripples their capacity to care, causes anxiety, alienation and feelings of being unwanted" (p. 426).

Rowe (1980) evaluated the relative effectiveness of cooperative education in preparing men and women for occupational achievement and satisfaction after graduation.

She surveys both coop and non-co-op, male and female students and states: "The cooperative education program plan is more effective than regular programs in preparing students for the world of work" (p.32).

A study conducted by Gotlieb (1981) to examine issues and their significance in cooperative education cited 13 important issues, two of which are germane to this study. According to Gotlieb (1981) they are: first, relationship between cooperative education programs and student admissions and retention. The experts suggest that admissions and retention gains may be achieved through cooperative education programs. The second issue addressed by Gotlieb (1981) was effectiveness of cooperative education programs for students concentrating in the non-career specific disciplines. According to Gotlieb (1981), "the literature findings from experts suggest that cooperative educational practitioners face a number of difficulties in developing such programs" (p. 31). He reported citations from a number of experts who feel that students in the non-career specific disciplines need cooperative education more than those in the career specific disciplines. It was concluded: "Widespread and continuing interest in the liberal arts student suggest that an important issue in cooperative education revolves around the involvement of these students" (p. 41).

A study conducted by Page, Wiseman and Crary (1981) explores the relationship between cooperative education

work experiences and subsequent benefits. Page et al. (1982) suggest a trade-off between the student's personal growth and perceived employability, that the student either grows personally through unstructured activities or else feels more employable through a structured experience--but not necessarily both.

Porter (1982) states that over the past twenty years, the National Commission for Cooperative Education has been active in the expansion of cooperative education. He reports:

> Largely through Commission initiated efforts, the number of institutions of higher education that have adopted co-op programs has grown to approximately 1,047. Although this represents one-third of all the institutions of higher education in the U.S., it should be noted that many of the programs remain in the incipient stages of development and reach relatively few students. All together, only about 200,000 postsecondary students or about two percent of all college students, are in cooperative programs (p. 12).

Duley (1984) reports on surveys showing that approximately twenty-five states have legislative sponsored programs in which students serve as staff members for legislative bodies. Another thirty states have programs specifically for students interested in public administration or state government. Duley (1984) reports that over 200 local government units have developed community service programs and that overseas study programs have also increased dramatically, involving over 1,000 programs and more than 60,000 students from the United States and an excess of 97,00 employers are involved in cooperative education.

The Newman Report on Higher-Education Policy (1985) addresses the importance of college work/study programs. The report states:

> On the whole work/study programs tend to build character, encourage a sense of responsibility, encourage self-confidence, create a sense that the student is a useful member of society, expand a student's expectations about himself, increase the capacity for cooperation, and add to a student's knowledge of the world of jobs (p. 24).

Barbeau (1985) elucidated the concept further, quoting former Secretary of Labor, Willard Wirtz who states:

> Some kind of provision for interspersing the earning and learning of a living, for interweaving employment and self-renewal, is going to have to be recognized as the essential condition for an effective career as worker, citizen, or human being (p. 5).

He reiterates the findings of many who have emphasized the need for relevant programs. "Relevance keeps students enrolled, and relevance makes them productive members of society" (p. 5).

Foster, Franz and Waller (1986), in a recent study, examined job satisfaction of cooperative education graduates and non-cooperative education graduates to provide information to substantiate research findings regarding job satisfaction. They report that individuals with co-op experience were more satisfied with their jobs, even if change in location was desired, as compared with the non-co-op group who were only satisfied if they were also satisfied with the location of the job. The study suggests: "The co-op work experience is a maturing element affecting

the location factor which is significant in determining job satisfaction when employers are selecting employees" (p. 49).

Shenker and Heinemann (1987) state:

> Cooperative education is not a radical, new idea, but a concept of learning that is old and proven. It has been practiced by the medical profession for centuries. The academic program, institutional structures, financial resources and administrative support must all be in place for a successful program to be launched. Once in place, the benefits to all segments of the educational community can indeed be enormous" (p. 64).

Homer (1987) concludes:

> It is time for co-op educators to rid themselves of their defensive posture and capitalize on the inherent ability of cooperative education to produce excellence. We should cease trying to prove ourselves to antiquity, and take the initiative to make co-op an essential part of the process of the changing curriculum" (p. 67).

Related Dissertation

Couey (1977) compared the work values of cooperative education program participants and non-cooperative education students in residence at Auburn University. He used Donald E. Super's Work Values Inventory (1970).

Couey (1977) used 34 cooperative education students who were randomly selected from among the senior engineering students. Fifty students who had not participated in cooperative education comprised the comparison group.

Couey (1977) used the Discriminant Analysis as the statistical procedure to determine if the groups differed.

Couey (1977) states:

> Discriminant analysis has indicated that the 15 dependent variable scores failed to significantly differentiate between the research and comparison groups (p. 57).

Couey (1977) goes on to say that, ". . . the discriminant function coefficients were not interpretable and that the chi-square value did not reach significance" (p.57).

Couey (1977) reported further that the two groups were not statistically different at the .05 level of significance. He reported the F ratio as non-significant at the .05 level for 14 of the 15 variables of Super's Work Values Inventory. Only independence, "work which permits one to work in his own way, as fast or as slowly as he wishes" (Super, 1970), was reported as significant using the F ratio at the .05 level (pp 58.59).

According to Couey (1977), the cooperative education group and the non-cooperative education group were more similar than dissimilar in terms of work values as obtained from Super's 1970 Work Values Inventory. He also reported that the biographical data resulted in conclusions that both groups had many biographical similarities.

Couey (1977) concluded:

> The overall conclusion resulting from this study is that work values of engineering students are similar whether or not they chose cooperative education. The work values they hold do not influence their choice. Likewise, the cooperative education experience did not affect their work values (pp. 89-90).

CHAPTER III

METHODOLOGY

Introduction

This is a descriptive study designed to provide a comparative analysis of work values held by post secondary undergraduate cooperative and non-cooperative education students. The study included students from 11 universities with cooperative education programs in six states. The purposes for the study were: (1) to compare the relationship of work values of students who participate and those who do not participate in cooperative education programs; and (2) to compare selected factors which potentially influence students' decisions regarding participation or nonparticipation in cooperative education programs.

The investigation was designed to collect data which allowed for a comparison of cooperative and non-cooperative students. It compares the work values held by cooperative and non-cooperative students and identifies other related factors which potentially influence students to participate or not participate in cooperative educations programs.

The information contained in this chapter delineates the methods employed to identify the population for the

study, selection of the instruments used, collection of data and analyses of the data.

The Study Population

The population for the study was drawn from a six-state area: Oklahoma, Arkansas, Louisiana, Missouri, Tennessee and Texas. Because of lack of availability (low enrollment) of students at some institutions, it was necessary to use purposive sampling techniques as proposed by Borg and Gall (1983); Mook (1982); Meyers and Grossen (1978) and Kerlinger (1973).

According to Borg and Gall (1983), "A small sample from a large target population saves the researcher the time and expense of studying the entire population" (p. 241). Following this recommendation, the study was designed around 11 institutions comprising a total of 400 students: 200 cooperative education students and 200 non-cooperative education students. The sample was drawn from the academic disciplines of engineering, business and related areas and computer science. According to Davies and Carr (1984), students in engineering and business account for the largest number of cooperative education enrollments with computer science enrollments growing more recently.

Of the institutions selected, each conducts optional/ alternating programs. By definition of the National Commission of Cooperative Education (Porter, 1974), each

school selected embraces the cooperative concept by providing cooperative opportunities to all interested students and by awarding academic credit for cooperative education work experience. Additionally, these institutions were cited as administering programs through an office which serves all students and reports to the academic dean or vice chancellor for academic affairs.

Land-grant institutions were selected because of the commonality of the institutional mission which fosters "the partnership of work and education" concept (Keene, 1975). The concept of providing educational opportunities at the college level, i.e., "instruction relating to practical activities of life" (Keene, p. 22), was at the heart of the land-grant idea from its inception.

Instrumentation

Data were collected using a single composite instrument which included the Work Values Inventory (Donald Super, 1970) and a researcher-designed Information Sheet. Donald Super's Work Values Inventory was used as published in its original form.

The Work Values Inventory was developed by Donald E. Super (1970) to assess goals which motivate people to work. It purports to measure extrinsic and intrinsic values, i.e., satisfaction which people seek in their work or life in general. The instrument consists of 45 normative items (three items per work-value scale) to be rated with respect

to their degree of importance in future job satisfaction on a 5-point Likert scale ranging from 5 (very important) to 1 (unimportant). It yields scores for 15 work relevant value dimensions and assesses the importance of the following work values or desired satisfactions that people seek in their work or as outcomes of their work: creativity, management, achievement, surroundings, supervisory relations, way of life, security, associates, esthetics, prestige, independence, variety, economic return, altruism, and intellectual stimulation (Gable, 1972) (Appendix A).

According to Gable (1972) the Work Values Inventory in its present form should be considered a research version that may contribute greatly to the need for gathering information regarding patterns of work values essential for enlightened vocational decisions. Breme and Cockriel (1975) in a study of 195 male freshmen students found that there is a high degree of relationship between work-values (as measured by the Work Values Inventory) and inventoried interests as measured by the Strong Vocational Interest Blank. They concluded that interest patterns reflect work-values. In Addition, Tiedeman (1972) rates the Work Values Inventory in this manner:

> The inventory has been around for two decades: hence, there is quite a bit of value data and these data suggest that the desired value constructs have been approximated in the scales, that the items in the scales have content validity, and that the inventory offers concurrent results" (p. 1480).

Bolton (1980) supports claims that "the Work Value Inventory (WVI)is a wide-ranging values inventory that is applicable to persons at all age, educational, and intellectual levels" (p. 39). He further asserts that "the WVI is the best all-around work values assessment instrument" (p. 841).

The Work Values Inventory has both a high level of reliability and validity. Internal consistency reliability coefficients (how consistently the instrument measures what it purports to measure) are reported from a two-week test-retest ranging from a low of .74 to a high of .88, with a median of .83 (Super, 1970).

Validity is discussed under the four headings of Construct, Content, Concurrent and Predictive in the WVI Manual. According to Meyers and Grossen (1978), construct validity is the "assumption that we are in fact measuring what we claim to measure" (p. 197). In order to determine this type validity, the WVI was compared to the Allport-Vernon-Lindzey Study of Values, the Strong Vocational Interest Blank and the Kuder Preference Record (Vocational). The reported correlations regarding these comparisons are presented in table form in the WVI Manual, and range from a -.60 to a +.67.

The content validity of the WVI was established by Super through review of the applicable literature and his

field testing, and developed from a theoretical base. Concurrent validity was established in relation to personality measures, curricula, grade, sex, and occupational differences.

Predictive validity was not dealt with in the WVI Manual as the research in this area had not been completed by Super. It is felt that predictive validity is not considered applicable to this study as future outcomes are not pertinent.

In summary of the WVI validity data, Tiedeman (cited in Buros, 1972) stated:

> These data suggest that the values constructs sought have been reasonably approximated in the scales, that the items in the scale have content validity, and that the inventory offers concurrent results with outside criteria in accord with expectations (p. 1479).

The 16 item Work Values Information Sheet was designed by the researcher to serve two purposes: 1) to collect relevant demographic data such as age, sex, marital status, ethnic identity, academic level, GPA and credit hour load; and 2) to obtain from respondents factors which influenced career decisions. A preliminary draft of the Work Value Information Sheet was field tested at Oklahoma State University. The first test was administered to a class of 45 junior and senior level undergraduate students. Several items were identified as unclear by this group. Corrections were made and a second field test was conducted in a different class of 35 junior and senior level students. These individuals stated that the items were clear, nondu-

plicative and offered no other corrections. These questions included field of study, factors influencing choice of major, confidence in choosing the right major, occupational plan after graduation, assurance that this is the right major, assurance of ability to do well in occupational choice, involvement in cooperative education, and a list of 13 other items regarding factors that potentially influenced the decision to participate or not participate in the cooperative education program and the major sources of funding for your college education (Appendix B).

Collection of Data

To gather the data at each institution, it was necessary to enlist the assistance of the cooperative education directors. A total of 18 directors were contacted personally by telephone. In some instances four or more calls were placed to an office in an effort to speak directly to the director. The researcher deemed this part of the research effort important to the success of the project.

When contact was finally made with individual directors, they were each given a full description of the study, purposes for which the study was being conducted, answers to queries, and a request to participate in the study. Of the 18 directors initially contacted and who met the criteria, twelve individuals representing 11 universities (because of the size of the program, one institution has two directors--one for engineering and another for business

and related areas) agreed to assist in the study. Six individuals declined participation, stating that either their programs were too small or that their responsibilities and/or other problems would prevent involvement.

The twelve directors agreed to assist in the study by receiving the surveys, identifying students, administering the surveys and returning them via mail to the researcher.

The directors were asked to select 40 students to participate in the study. Twenty students were to be cooperative education students majoring in engineering and business and/or related disciplines.

The cooperative education students included had to have completed one or more off-campus cooperative assignments. For comparison purposes 20 students who had declined the opportunity to participate in the cooperative education program were selected to participate in the study. Because of small enrollments, two of the selected institutions were asked to survey only 20 students (ten co-op students and ten non-co-op students.)

A complete packet of information was mailed on the same day to each of the directors who agreed to participate in the study. They received a cover letter (Appendix C) recapping the telephone conversation; i.e., indicating the focus of the study, the population agreed upon to be included in the study, a composite instrument (the original Work Values Inventory booklet), and the researcher-designed

information sheet (the two were attached together to facilitate administration), a manual of instructions, an assortment of token bookplate favors for each respondent, and a self-addressed envelope for return mailing. Additionally, they received procedural information regarding the time required for respondents to complete the survey forms and administration instructions (Appendix D).

The directors were assured that anonymity in the study would be strictly adhered to. They were therefore asked to advise students not to give their names. Color codes were applied to each of the survey sheets to allow for institutional follow-up by the researcher. A request was made to return all forms by a specific date, separated by groups of co-ops and nonco-ops, using a color sheet to divide respondents into two groups. In the event of a mix-up in survey forms, identity between the groups would be achieved by scanning the forms for the answer to item number 14 on the researcher-designed information sheet which asked, "Are you involved in the cooperative education program?"

Follow-up was conducted approximately two weeks after the date set to receive the completed surveys. Again, personal contact via telephone was made. It was during this follow-up activity that the researcher learned from several directors that there were problems on their part in following through on the plan originally agreed upon in getting the surveys completed and returned. Some of the directors admitted not having given the surveys to students because

of other commitments. Additional comments included, "I do not have any control over students" and when asked to survey classes the statement was made, "What teacher would take time to allow students to take a survey this time of year?" Other comments ranged from "The responses from our students are very poor" or "We are unable to reach the students," to a secretary who stated, "The director quit without giving notice and it is not my job to do this work." After calling two of the directors five times, one finally called back stating that "I am busy with a federal project and my own dissertation, and doubt that I will be able to return more than a few of the surveys--if any." The other person was not available to speak to the researcher, and did not respond to any of the calls.

In an effort to retrieve as many of the surveys as possible, another attempt was made via a follow-up letter to each director who had not returned the surveys. One week after mailing the follow-up letter, another attempt was made by personally calling those directors who had not responded. These efforts, though extensive, did not yield positive results in some cases. It is important to point out that three of the 11 directors returned all of their surveys and all surveys returned by these three directors were usable.

Analysis of Data

The Work Values Inventory Administered to cooperative and non-cooperative education students were coded for computer analysis. The data were analyzed using SPSSX. The Independent two tailed t-test was used to determine whether mean scores on one or more factors differ significantly from each other according to groups (Borg and Gall, 1983).

The data obtained on the researcher designed Information Sheet were reported by frequency and percent. Item numbers one through nine provided demographic information and was reported by total group, sub-group and percentages. Items 10, 12 and 13 deal with factors which may influence cooperative and non-cooperative students' occupational decisions and was reported by percent, total group and sub-group. Item number 11 was manually tabulated, sorted into separate categories reflected by similar opinions and grouped into professional occupational categories and reported by group and percentages. Item number 14 was listed for clerical purposes only. Item number 15 deals with factors which influenced the decision to participate or not participate in cooperative education programs and was reported by frequency, percent, and by group. Data for item number 16 was reported by group, frequency and percent.

CHAPTER IV

FINDINGS

Introduction

This chapter is a summary of the results of the data obtained from the Work Values Inventory and the researcher-designed Information Sheet. The statistical analyses answer the two research questions formulated for the study and presented in Chapter I.

The major focus of this study was to compare the work values as measured by Super's Work Values Inventory of cooperative and non-cooperative students. A secondary focus was to compare the target population regarding selected factors which may potentially influence students' decisions regarding participation or nonparticipation in cooperative education programs.

Response Rate

Four hundred subjects were sought for the study: two hundred subjects from the cooperative education group and 200 from the non-cooperative group. One hundred and fifty-five students responded. Of this number, 100 were cooperative education students and 55 were non-cooperative education students.

The initial design of the study included eleven institutions in six contiguous states. Only eight of the institutions responded, which constitutes a 73 percent response rate on the part of total institutions agreeing to participate in the study. Data in Table I show the number of surveys returned from each school responding. Letters are used to differentiate participating institutions. The response rate for the cooperative education group was 50 percent and 27.5 percent for the non-cooperative education group.

TABLE I

RETURNS BY RESPONDING INSTITUTIONS

	Co-op		Non-Co-Op		Total
	# Mailed	# Returned	# Mailed	# Returned	# Returned
A	20	20	20	20	40
B	20	10	20	10	20
C	20	5	20	0	5
D	20	9	20	0	9
E	20	20	20	4	24
F	20	15	20	3	18
G	10	10	10	10	20
H	10	11	10	8	19
—	—	—	—	—	—
8	140	100	140	55	155

Note: Three institutions agreeing to participate did not respond.

Findings

The first question in the study is: Do cooperative education students differ significantly from non-cooperative education students in terms of the work values as measured by the 15 sub-scales of Super's Work Values Inventory?

A two-tailed t-test was used to analyze the relationship between the 15 independent measures of creativity, management, achievement, surroundings, supervisory relations, way of life, security, associates, esthetics, prestige, independence, variety, economic return, altruism, and intellectual stimulation on the WVI. The significance level was set at .05.

Data in Table II show a comparison of the means, standard deviations, t-test results and probability for the cooperative education and non-cooperative education groups. Data indicate that there was no statistical significance of difference existing between the two groups. However, the data showed a consistently greater range of standard deviation scores on all items for the cooperative education group than for the non-cooperative education group.

In order to answer the second study question: What are some selected factors that potentially influence students to participate or not participate in cooperative education programs?, frequencies and percentages were used for comparison purposes. Findings of demographic information and the selected factors are depicted in tables.

TABLE II

COMPARISONS OF MEANS, STANDARD DEVIATIONS AND t-TEST VALUE AND PROBABILITY FOR WORK VALUES INVENTORY FOR CO-OP AND NON-CO-OP

Subscale Variables	Co-op (N=100) M	Co-op (N=100) SD	Non-Co-op (n=55) M	Non-Co-op (n=55) SD	t-Test value	2-Tail Prob.
Creativity	12.01	2.36	12.07	1.89	-0.17	0.866
Management	10.60	2.13	11.13	2.11	-1.48	0.141
Achievement	13.21	2.35	13.53	1.65	-0.89	0.376
Surrounding	12.13	2.48	12.33	2.16	-0.50	0.621
Supervisory Relations	12.96	2.35	13.02	1.65	-0.16	0.871
Way of Life	12.91	2.59	13.42	1.50	-1.33	0.184
Security	13.15	2.45	13.24	1.79	-0.23	0.819
Associates	10.73	2.26	11.25	1.85	-1.47	0.143
Esthetics	9.74	2.81	8.85	2.59	1.93	0.056
Prestige	11.86	2.30	12.53	1.89	-1.84	0.068
Independence	11.58	2.46	12.09	1.71	-1.37	0.173
Variety	11.62	2.39	11.67	2.03	-0.14	0.890
Economic Return	13.00	2.67	13.11	1.73	-0.27	0.785
Altruism	12.32	2.86	12.69	1.82	-0.87	0.386
Intellectual Stimulation	12.04	2.28	12.13	1.83	-0.24	0.807

$p < .05$, df=153

Data in Table III show the respondents' age by total group and sub-group. The largest percent (85%) of the entire population fell in the category of 18 to 24. The age pattern of the two groups was essentially the same.

TABLE III

RESPONDENTS' AGE BY TOTAL GROUP, SUB-GROUP AND PERCENT

Age	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
18-24	132	85.2	84	84.0	48	87.3
25-34	20	12.9	14	14.0	6	10.9
35-44	1	0.6	1	1.0	-	-
45-54	2	1.3	1	1.0	1	1.8
Total	155	100.0	100	100.0	55	100.0

Data in Table IV show that in terms of respondents' gender, there was a near even split between males and females in both groups.

TABLE IV

RESPONDENTS' GENDER BY TOTAL GROUP, SUB-GROUP AND PERCENT

Gender	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Male	79	51.0	52	52.0	27	49.1
Female	76	49.0	48	48.0	28	50.9
Total		100.0	100	100.0	55	100.0

Data in Table V show the respondents' marital status by total group, sub-group and percent. These data indicate that the majority (87%) of the respondents were in the single category and that both groups were very much alike in regard to marital status.

TABLE V

RESPONDENTS' MARITAL STATUS BY TOTAL GROUP, SUB-GROUP AND PERCENT

Marital Status	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Single	135	87.1	87	87.0	48	87.3
Married	16	10.3	12	12.0	4	7.3
Divorced Separated	4	2.6	1	1.0	3	5.5
Total	155	100.0	100	100.0	55	100.0

Data in Table VI show respondents' ethnic identity by group, sub-group and percent. In considering ethnic makeup, both groups were similiar in that there was a near even split between the percent of Blacks and Caucasians (44% and 52%) represented in both groups, respectively.

TABLE VI

RESPONDENTS' ETHNIC IDENTITY BY GROUP, SUB-GROUP AND PERCENT

Racial Identity	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
American Indian	2	1.3	1	1.0	1	1.8
Black	68	43.9	44	44.0	24	43.6
Caucasian	81	52.3	52	52.0	29	52.7
Other	4	2.6	3	3.0	1	1.8
Total	155	100.0	100	100.0	55	99.9

In terms of academic classifications of respondents by total group, sub-group and percent, over 85 percent of the respondents were in the junior and senior classifications (54%). However, the largest single group participating in cooperative education was of senior classification. Differences in terms of college level although not great were more pronounced than for information reported in

Tables III, IV, V, and VI. See Table VII for a description of the two groups in terms of classification.

TABLE VII

RESPONDENTS' CLASSIFICATION BY TOTAL GROUP, SUB-GROUP AND PERCENT

College Level	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Freshman	4	2.6	1	1.0	3	5.5
Sophomore	18	11.6	7	7.0	11	20.0
Junior	62	40.0	38	38.0	24	43.6
Senior	71	45.8	54	54.0	17	30.9
Total	155	100.0	100	100.0	55	100.0

Data in Table VIII depict respondents' current grade point average in six categories ranging from 1.01-1.50 to 3.41- 4.00. Over 50 percent of the respondents' GPA's in both groups were at or above 3.01 GPA. Using these data to compute a weighted GPA, both groups had an identical 2.98 GPA.

TABLE VIII

RESPONDENTS' GPA BY TOTAL GROUP, SUB-GROUP AND PERCENT

GPA Categories	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
1.01-1.50	1	0.6	-	-	1	1.8
1.51-2.00	4	2.6	4	4.0	-	-
2.01-2.50	25	16.1	12	12.0	13	23.6
2.50-3.00	42	27.1	32	32.0	10	18.2
3.01-3.50	58	37.4	38	38.0	20	36.4
3.50-4.00	25	16.1	14	14.0	11	20.0
Total	155	100.0	100	100.0	55	100.0

Data in Table IX show the findings for respondents' current student status by total group, sub-group and percent. Virtually all (90% or higher) of the respondents in both groups are full-time students with over 60 percent of the students majoring in business and related areas. About one-third (37%) were majoring in engineering. See Tables IX and X for a description of the groups in terms of the student load status and field of study.

TABLE IX

RESPONDENTS' CURRENT STUDENT LOAD STATUS
BY GROUP, SUB-GROUP AND PERCENT

Student Load Status	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Full-Time	146	94.2	95	95.0	51	92.7
Part-Time	9	5.8	5	5.0	4	7.3
Total	155	100.0	100	100.0	55	100.0

TABLE X

RESPONDENT'S FIELD OF STUDY BY
GROUP, SUB-GROUP AND PERCENT

Academic Major	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Business/Related	95	61.3	61	61.6	34	63.0
Engineering	58	37.4	38	38.4	20	37.0
No response	2	1.3	-	-	-	-
Total	155	100.0	99	100.4	54	100.0

Question nine asked: What factors most strongly influenced your choice of major? Respondents were forced to choose one of eight items. Data in Table XI show factors that influenced the respondents' choice of major by

group and percent. Career opportunities and enjoyment of classes, respectively, ranked one and two for both groups.

TABLE XI

PERCENT INDICATING SELECTED FACTORS INFLUENCING RESPONDENTS' CHOICE OF MAJOR BY GROUP

Factors Influencing Major	Co-op (n=100) %	Non-Co-op (n=55) %
Family	4.0	9.1
Friends	2.0	-
Counselor	2.0	1.8
Teachers	3.0	5.5
Enjoy Classes	18.0	18.2
Do Well In Courses	3.0	12.7
Career Opportunities	64.0*	43.6*
Other	4.0	9.1

Note: Combined scores equal 100 percent for each group
* Indicates factor most strongly influencing selection of a major.

Respondents were asked several questions (questions 10, 11, 12, and 13) regarding selection of their intended occupations. In response to question 10: How confident are you that you are in the right major?, participants were forced to select one from among eight items. The results are presented in Table XII. Over half the members in both groups reported that they felt "very sure" about their choice of major.

TABLE XII

RESPONDENTS' CONFIDENCE OF RIGHT MAJOR BY TOTAL GROUP, SUB-GROUP, FREQUENCY AND PERCENT

Confidence of Major	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Very sure	91	58.7	58	58.0	33	60.0
Somewhat sure	60	38.7	40	40.0	20	36.4
Somewhat unsure	3	1.9	2	2.0	1	1.8
Very unsure	1	0.6	-	-	1	1.8
No Response	-	-	-	-	-	-
Total	155	99.9	100	100.0	55	100.0

The findings in Table XIII show how the respondents answered question 11, an opened-ended question: List the occupation you plan to enter after graduation. Based on responses the researcher established two occupational groups. For comparative purposes, a cross check between individual responses to question eight (Table X) and the responses to question 11 revealed that for the co-ops a similar percentage (57%) intend to enter into an occupation related to their field of study after graduation. However, the non-co-ops did not follow this pattern. Additionally, intended occupations are very dissimilar when comparing distribution percentages for the two groups.

TABLE XIII

PERCENT OF RESPONDENTS' INTENDED OCCUPATION BY GROUP

Intended Occupation	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Business & Related	88	56.9	57	57.0	14	25.4
Engineering	45	29.0	31	31.0	31	56.4
Other	22	14.1	12	12.0	10	18.2
No response	-	-	-	-	-	-
Total	155	100.0	100	100.0	55	100.0

Data in Table XIV show respondents' answers to question 12: How sure are you that this is the right occupation for you? Findings show over 95 percent of respondents in both groups are much alike in that they are either very sure or somewhat sure that they have selected the right occupation. Moreover, a near majority of both groups are highly confident of their occupational choices.

TABLE XIV

PERCENT OF RESPONDENTS' ASSURANCE OF THE RIGHT OCCUPATION BY TOTAL GROUP AND SUB-GROUP

	Combined Group		Co-op		Non-Co-op	
	N	%	N	%	N	%
Very sure	77	50.0	49	49.0	28	51.9
Somewhat sure	71	46.1	46	46.0	25	46.3
Somewhat unsure	5	3.2	4	4.0	1	1.9
Very unsure	1	0.6	1	1.0	-	-
No response	1	-	-	-	1	1.8
Total	155	99.9	100	100.0	55	99.9

Data in Table XV show responses to question 13: How sure are you that you will do well in the occupation you enter after graduation? Sixty percent or more of both groups indicated that they expect to do well in the occupations of their choice after they graduate from college. Overall, the responses for both groups are much alike.

TABLE XV

PERCENT OF RESPONDENTS' ASSURANCE THAT THEY WILL DO WELL IN THEIR OCCUPATION BY TOTAL GROUP AND SUB-GROUP

	Combined Groups		Co-op		Non-Co-op	
	N	%	N	%	N	%
Very sure	98	63.2	65	65.0	33	60.0
Somewhat sure	56	36.1	34	34.0	22	40.0
Somewhat unsure	1	0.6	1	1.0	-	-
Very unsure	-	-	-	-	-	-
No response	-	-	-	-	-	-
Total	155	99.9	100	100.0	55	100.0

Respondents were asked to circle a number for each item to indicate how that item influenced the decision to participate or not participate in the co-op program. Responses were selected from among three options:

Encouraged = 1; Discouraged = 2; or Not Applicable = 3. The responses shown in Table XVI indicate respondent views as to how these factors influenced their decisions regarding cooperative education.

Five factors were selected by the majority of both groups as encouraging: advancement of career; needed experience; relevance to study and work; financial; and needed interpersonal skills.

A majority of the co-op group rated as encouraging four additional areas: grades; develop maturity; faculty/counselor; and friends/ family.

The majority of the members in the non-co-op group indicated that delayed graduation was discouraging in contrast to a majority of the co-op group who indicated that it was not applicable.

A majority of both co-ops and non-co-ops indicated that lack of information was not applicable. The non-co-ops were split on three factors with slightly more than one half indicating that grades, develop maturity and needed interpersonal skills as not applicable to them. In contrast, a majority of the co-ops selected delayed graduation and lack of information as not applicable.

TABLE XVI

PERCENT FOR CO-OP AND NON-O-OP OF FACTORS WHICH INFLUENCED THE DECISION TO PARTICIPATE OR NOT PARTICIPATE IN COOPERATIVE PROGRAMS BY GROUP

Factor Which Influenced Decision	Encouraged				Discouraged				Not Applicable			
	Co-op (n=100)		Non-Co-op (n=55)		Co-op (n=100)		Non-Co-op (n=55)		Co-op (n=100)		Non-Co-op (n=55)	
	N	%	N	%	N	%	N	%	N	%	N	%
Financial	74#	74.7	29	52.7	2	2.0	4	7.3	23	23.2	22	40.0
Delayed Graduation	8	8.0	4	7.3	39	39.0	35	63.6	53	53.0	16	29.1
Advancement of Careers	93	93.0	36	65.5	2	2.0	0	0	5	5.5	19	34.5
Relocation from School	28#	28.3	10	18.2	22	22.2	24	43.6	49	49.5	21	38.2
Needed Experience	92	92.0	34#	63.0	2	2.0	0	0	6	6.0	20	37.0
Lack of Information	20#	20.2	6	11.1	24	24.2	20	37.0	55	55.6	28	51.9
Grades	54	54.5	18	32.7	9#	9.1	7	12.7	36	36.4	30	54.5
Develop Maturity	75	75.8	25	45.5	2#	2.0	2	3.6	22	22.2	28	50.9
Needed Interpersonal Skills	76	76.0	27	50.0	1	1.0	0	0	23	23.0	27#	50.0
Relevance to Study and Work	86	86.9	37	67.3	5#	5.1	0	0	8	8.1	18	32.7
Leaving Campus	35	35.0	11#	20.4	24	24.0	22	40.7	41	41.0	21	38.9
Faculty/Counselors	59	59.0	22	40.0	10	10.0	11	20.0	31	31.0	22	40.0
Friends/Family	58	58.0	22	40.0	10	10.0	10	18.2	32	32.0	23	41.8

# Denotes 1 or more missing observations.

Note: Only responses 50% or above have been underlined.

Respondents were asked on question 16 to indicate the major sources of funding for their college education. Responses were ranked from most important to least important on a scale from 1 to 4 (1 = most important to 4 = least important). The majority of both groups indicated that financial aid was the major source of funding for their college education. Additionally, responses were weighted in reverse order, assigned ranks and calculated to determine which variable received highest rank. For both groups financial aid was still ranked highest among all items on the scale (Table XVII).

Summary

In summary, the findings show that both groups are very much alike in nearly all areas measured. An analysis of the data to answer question one: Do cooperative education students differ from non-cooperative education students as measured by Donald E. Super's Work Values Inventory? revealed that respondents in this study were similar. The measures obtained from the 15 sub-scales of the survey were not significant at the .05 level of significance. However, it is notable that the range of standard deviation scores was consistently greater for the cooperative education group than for the non-cooperative education group.

TABLE XVII

PERCENT OF RESPONDENTS' INDICATING MAJOR SOURCES OF FUNDING FOR COLLEGE EDUCATION BY GROUP

Sources of Funding	Co-op		Weighted Value	Non-Co-op		Weighted Value
Family	(n=97)			(n=21)		
Scale	#	%		#	%	
1	19	19.6	76	21	39.6	84
2	36	37.1	108	16	30.2	48
3	25	25.8	50	9	17.0	18
4	17	17.5	17	7	13.2	7
	97	100.0	251	53	100.0	147
Employment	(n=97)			(n=50)		
Scale	#	%		#	%	
1	20	20.6	80	5	54.7	20
2	41	42.3	123	19	38.0	57
3	29	29.9	58	17	34.0	34
4	7	7.2	7	9	18.0	9
	97	100.0	268	50	100.0	120
Financial Aid	(n=93)			(n=53)		
Scale	#	%		#	%	
1	66	71.0*	264	29	57.7*	116
2	11	11.8	33	10	18.9	30
3	9	9.7	18	8	15.1	16
4	7	7.5	7	6	11.3	6
	93	100.0	322	53	100.0	168
Other	(n=44)			(n=28)		
Scale	#	%		#	%	
1	7	16.0	28	0	0	0
2	0	0	0	1	3.6	3
3	11	25.0	22	10	35.7	20
4	26	59.0	7	17	60.7*	17
	44	100.0	57	28	100.0	40

* Indicates largest number of responses by group

1 = most and 4 = least

The data obtained to answer question two: What factors influence students' decisions regarding participation or nonparticipation in cooperative education programs?, indicate that the respondents are more similar than dissimilar on all aspects of the demographic findings. Further analysis of the data regarding field of study, choice of major, confidence of selecting the right major and intention of occupation after graduation resulted in an overwhelming majority of respondents for both groups indicating that they are confident in their decisions regarding these factors.

Findings for responses to factors which influenced decisions to participate or not participate in cooperative education programs resulted in few differences between the groups. Both groups were encouraged by factors addressing financial, advancement of careers, needed experience, needed interpersonal skills and relevance to study and work. Differences between the two groups were found in that a majority of the non-co-ops indicated that delayed graduation was discouraging for them, while a majority of the co-op group indicated that this factor was not applicable. Slightly less than a majority of the non-co-ops indicated that relocation and leaving campus were discouraging, while a similar percent of co-ops indicated that these factors were not applicable. A majority of both groups indicated that the lack of information was not applicable. In

the final analysis there were few identifiable differences between the two groups.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this chapter is to present an overview of the study and provide an interpretation of the statistical findings. Conclusions based on the research findings are presented together with recommendations for future research.

Summary of Findings

The purposes of the study were: (1) to compare the relationship of work values of students who participated and those who do not participate in cooperative education programs; and (2) to compare selected factors which potentially influence students' decisions regarding participation or nonparticipation in cooperative education programs.

Two questions were formulated to be answered in the study as follows:

1. Do cooperative education students differ from non-cooperative education students in terms of their work values as defined by Donald E. Super's Work Values Inventory (WVI), on the independent measures of altruism, esthetics,

creativity, intellectual stimulation, achievement, independence, prestige, management, economic returns, security, surroundings, supervisory relations, associates, way of life and variety, and

2. What are some selected factors which potentially influence students to participate or not participate in cooperative education?

The problem that led to this study was the recognition that student participation in cooperative education programs on the national level was very low, averaging less than 100 students per program and only approximately 2 percent of all students. Specifically, the problem was underutilization of cooperative education by students.

The study design was descriptive in nature, using the survey methodology to obtain data of existing phenomena from a target population of 400 students (200 cooperative and 200 non-cooperative students). The study participants were primarily of junior and senior classifications, majoring in business or related disciplines and engineering. The study included 11 universities in six contiguous states. Eight institutions responded which constituted a 73 percent response rate of the total number of institutions initially agreeing to participate in the study.

Super's (1970) Work Values Inventory was combined with a reseacher-designed Information Sheet and mailed to the cooperative education directors at the participating institutions. The cooperative education directors accessed the

student population by administering the surveys to the cooperative and non-cooperative target populations.

Four hundred surveys were mailed. Of the surveys mailed 155 were returned. The cooperative group returned 100 and the non-cooperative group returned 55; an overall response rate of 38.75 percent was achieved.

The instrument consisted of two parts: Super's 45 item Work Values Inventory in which respondents rated each statement on a 5-point Likert scale ranging from 5, meaning very important to 1, meaning unimportant (Super, 1970, pp. 6-7). The second part of the instrument consisted of the reseacher-designed Information Sheet. This portion was designed to elicit relevant demographic information pertinent to the study and to obtain from respondents information regarding selected factors which potentially influenced their decision to participate in cooperative education programs.

The data were compiled and analyzed using SPSSX. Only the Independent two-tailed t-test was used as the statistical treatment procedure to analyze means and standard deviations of the Work Values Inventory. The Information Sheet data was reported based on frequencies and percentages of each respective group. These data were then used to report results by comparing the two groups.

The findings based upon 100 cooperative education students and the 55 non-cooperative education students show that there were no significant differences on the 15 vari-

ables measured on Super's Work Values Inventory. However, the findings show that the standard deviation scores were consistently greater for the cooperative education group than for the non-cooperative education group.

The reseacher-designed Information Sheet findings revealed more similarities than dissimilarities for both the cooperative education and non-cooperative education groups. One hundred cooperative and 55 non-cooperative respondents answered the 16 demographic questions and questionnaire items regarding factors which potentially influenced participation and nonparticipation in cooperative education programs.

The greatest difference between the two groups occurred in answers to item number 15 on the Information Sheet: factors which influenced the decision to participate or not participate in cooperative programs. The non-cooperative group indicated that delayed graduation was discouraging in contrast to the cooperative group who indicated that to them it was not applicable. It is notable that for both groups lack of information was not applicable. It was found that the non-co-ops were split approximately 50/50 on three factors: grades, develop maturity and needed interpersonal skills. These items were rated as not applicable by both groups.

The co-op group rated delayed graduation, lack of information and relocation from school as not applicable.

The data indicate that for co-ops these items were of little significance in the decision-making process of whether to participate in the cooperative education program. The data analysis showed that the cooperative education group and the non-cooperative education group are more similar than dissimilar in almost all areas surveyed.

Conclusions

Based on the research findings and within the parameters and limitations of the study, the following conclusions were drawn:

1. Measuring work values would not be an effective way to identify students who are most likely to participate in cooperative education programs;

2. The demographic factors for which data were collected for this study are not useful in identifying potential participants for cooperative education programs;

3. Providing additional information regarding cooperative education programs will not be a major stimulant to increase participation in the cooperative education program; and

Recommendations

The following recommendations are based on the research findings and the resultant conclusions.

1. Research activities which seek to uncover information regarding causes for the lack of student participation

in cooperative education programs needs to be undertaken. Three alternatives are recommended:

a) A comprehensive study using stratified sampling techniques to assess students' attitudes toward work/experience based programs, beginning in the freshman year and ending one year after graduation, should be conducted to determine attitudinal changes as students progress through college and into the world of work;

b) Conduct an experimental study of randomly selected students to assess changes which may occur in students who have been exposed to the study/work environment under controlled conditions; and

c) Conduct a case study of university work experience programs which enroll over 15 percent of the total student population in cooperative education programs.

2. Cooperative education practitioners should consider developing a program to insure that academic counselors be prepared to provide each student with information that suggests that additional time is not necessarily required to graduate on time when participating in most cooperative education programs.

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APPENDIXES

APPENDIX A

SUPER'S WORK VALUES INVENTORY

Donald E. Super
Teachers College,
Columbia University

WORK VALUES INVENTORY

THE RIVERSIDE
PUBLISHING COMPANY

8420 Bryn Mawr Avenue, Chicago, IL 60631

NAME_____ _____

The statements below represent values which people consider important in their work. These are satisfactions which people often seek in their jobs or as a result of their jobs. They are not all considered equally important; some are very important to some people but of little importance to others. Read each statement carefully and indicate how important it is for you.

5 means "Very Important"
4 means "Important"
3 means "Moderately Important"
2 means "Of Little Importance"
1 means "Unimportant"

(Fill in one oval by each item to show your rating of the statement.)

Work in which you . . .

1. . . . have to keep solving new problems.
2. . . . help others.
3. . . . can get a raise.
4. . . . look forward to changes in your job.
5. . . . have freedom in your own area.
6. . . . gain prestige in your field.
7. . . . need to have artistic ability.
8. . . . are one of the gang.
9. . . . know your job will last.
10. . . . can be the kind of person you would like to be.
11. . . . have a boss who gives you a square deal.
12. . . . like the setting in which your job is done.
13. . . . get the feeling of having done a good day's work.
14. . . . have authority over others.
15. . . . try out new ideas and suggestions.
16. . . . create something new.
17. . . . know by the results when you've done a good job.
18. . . . have a boss who is reasonable.
19. . . . are sure of always having a job.
20. . . . add beauty to the world.
21. . . . make your own decisions.

5 means "Very Important"
4 means "Important"
3 means "Moderately Important"
2 means "Of Little Importance"
1 means "Unimportant"

22. . . . have pay increases that keep up with the cost of living.
23. . . . are mentally challenged.
24. . . . use leadership abilities.
25. . . . have adequate lounge, toilet and other facilities.

26. . . . have a way of life, while not on the job, that you like.
27. . . . form friendships with your fellow employees.
28. . . . know that others consider your work important.
29. . . . do not do the same thing all the time.
30. . . . feel you have helped another person.
31. . . . add to the well-being of other people.
32. . . . do many different things.
33. . . . are looked up to by others.
34. . . . have good contacts with fellow workers.
35. . . . lead the kind of life you most enjoy.

36. . . . have a good place in which to work (good lighting, quiet, clean, enough space, etc.)
37. . . . plan and organize the work of others.
38. . . . need to be mentally alert.
39. . . . are paid enough to live right.
40. . . . are your own boss.
41. . . . make attractive products.

42. . . . are sure of another job in the company if your present job ends.
43. . . . have a supervisor who is considerate.
44. . . . see the results of your efforts.
45. . . . contribute new ideas.

Now check to be sure that you rated every statement.

OPQR-MR-89676

END OF WORK VALUES INVENTORY.

APPENDIX B

RESEARCHER-DESIGNED INFORMATION SHEET

WORK VALUES INFORMATION SHEET

The questions below are designed to give the researcher some basic information about you. Please select the number that best answers the question and write it in the blank to the left of the question number.

____ 1. Age
1. 18 to 24
2. 25 to 34
3. 35 to 44
4. 45 to 54
5. 55 to 64

____ 2. Sex
1. Male
2. Female

____ 3. Marital status
1. Single
2. Married
3. Divorced/Separated
4. Widowed

____ 4. Racial/ethnic identity
1. American Indian/Alaskan
2. Black
3. Caucasian
4. Hispanic
5. Asian
6. Other

____ 5. Present college level
1. Freshman
2. Sophomore
3. Junior
4. Senior

____ 6. Current GPA
1. 1.01-1.50
2. 1.51-2.00
3. 2.01-2.50
4. 2.51-3.00
5. 3.01-3.50
6. 3.51-4.00

____ 7. What is your current credit hour load?
1. Full-time (12 or more semester hours)
2. Part-time (less than 12 hours)

____ 8. What is your field of study?
1. Business or related
2. Engineering

____ 9. What factor most strongly influenced your choice of major?
1. Family
2. Friends
3. Counselor
4. Teachers
5. Enjoy classes
6. Do well in courses
7. Career opportunities
8. Other (Specify) _____

____ 10. How confident are you that you are in the right major?
1. Very sure
2. Somewhat sure
3. Somewhat unsure
4. Very unsure

11. List the occupation you plan to enter after graduation. _____

____ 12. How sure are you that this is the right occupation for you?
1. Very sure
2. Somewhat sure
3. Somewhat unsure
4. Very unsure

____ 13. How sure are you that you will do well in the occupation you enter after graduation?
1. Very sure
2. Somewhat sure
3. Somewhat unsure
4. Very unsure

____ 14. Are you involved in the Cooperative Education Program?
1. Yes
2. No

15. For each item listed below, please circle the number which indicates how that item influenced you in your decision to participate or not participate in the Co-Op Program.
Encouraged=1; Discouraged=2; Not Applicable=3

1. Financial situation	1	2	3
2. Delayed graduation	1	2	3
3. Advancement of career	1	2	3
4. Relocation from school	1	2	3
5. Needed experience	1	2	3
6. Lack of information	1	2	3
7. Grades	1	2	3
8. Develop maturity	1	2	3
9. Needed interpersonal skills	1	2	3
10. Relevance of study and work	1	2	3
11. Leaving campus	1	2	3
12. Faculty/counselors	1	2	3
13. Friends/family	1	2	3

16. What is the major source(s) of funding for your college education? (Please number in order of importance.)

Most Important 1 2 3 4 Least Important

____ Family
____ Employment
____ Financial aid (scholarships, grants, loans)
____ Other (Specify) _____

APPENDIX C

COVER LETTER

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION

STILLWATER, OKLAHOMA 74078
CLASSROOM BUILDING 406
(405) 624-6275

March 26, 1987

Dear

This letter is a follow-up to our telephone conversation regarding the participation of your school in a research project. As indicated in our discussion, the focus of the study is to examine the relationship of work values and student participation or non-participation in cooperative education programs.

Donald Super's Work Values Inventory and an attached information sheet are being used in the study. According to the manual, the Work Values Inventory can be completed in approximately 20 minutes.

As a recap of our discussion regarding student participants, I am asking you to select 40 students to complete the questionnaire. Twenty are to be Co-Op students majoring in business or engineering (10 in each area, if possible) who have completed at least one Co-Op assignment. The 20 non- Co-Op participants should include an equal number of randomly selected students from the same majors and classifications for comparison purposes.

To facilitate the process I have enclosed 40 respondent booklets and directions for the examiner. There is no need for students to give their names. Anonymity will be adhered to in the study. However, an institution's forms have been coded to allow for follow-up by the researcher.

In an effort to avoid the extremely heavy work period for most Co-Op directors during the latter part of April and early May, I am requesting that the forms be completed and returned by April 17, 1987.

If additional information is needed, please do not hesitate to call (405) 372-5837 or (405) 624-6275. I am available to help you at any time, day or night.

A self addressed envelope has been enclosed for return mailing.

Again, thank you very much for your participation in the study. The results will be shared with each participating school.

Sincerely,

Josetta E. Wilkins, Director
Cooperative Education
University of Arkansas at Pine Bluff

Melvin D. Miller, Advisor
Director, Occupational and Adult Education
Oklahoma State University

JW/esf

Enclosures:
1.) 40 Work Values Inventory booklets (Donald E. Super) with attached Information Sheet
2.) Directions to Examiner
3.) University Profile Form
4.) Self addressed envelope
5.) 40 token bookplate favors for each student participant

APPENDIX D

WORK VALUES INVENTORY ADMINISTRATION INSTRUCTIONS

Specific Directions: Giving the Test

(Have the examinees turn their booklets so that they are looking at page 3 and have them write their names on the line at the top of the page.)

(The examinees' directions for taking the test are reproduced below. Tell the examinees to read the directions on page 3 silently while you read them aloud, as follows:)

> "The statements below represent ***values*** which people consider important in their work. These are satisfactions which people often seek in their jobs or as a result of their jobs. They are not all considered equally important; some are *very important* to some people but of *little importance* to others. Read *each statement carefully* and indicate how important it is or would be for *you*.
>
> A *5* means '*Very Important*'
> A *4* means 'Important'
> A *3* means '*Moderately* Important'
> A *2* means 'Of Little Importance'
> A *1* means '*Unimportant*'
>
> "Fill in one oval by each item to show your rating of the statement."
>
> "Remember, you are rating *each* statement on a scale from *5*, meaning *Very Important* to *1*, meaning *Unimportant*. Do not skip any statements and do not make any marks *outside* the ovals."

(When everyone is ready, say:)

"Go ahead with the test. There is no time limit but you should be able to finish in 10 to 15 minutes. When you are through, review your answers and wait for further instructions."

(Circulate among the examinees, making sure they are marking answers correctly.)

(When all have finished, collect the test booklets.)

APPENDIX E

FOLLOW-UP LETTER

Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION

STILLWATER, OKLAHOMA 74078
CLASSROOM BUILDING 406
(405) 624-6275

May 7, 1987

Dear

On March 27, 1987 you were mailed a packet of 40 Work Values Inventories by Donald E. Super, with a cover letter, an attached information sheet, etc. Only those Cooperative Education Directors who had agreed in an earlier discussion by telephone to participate in the study received the packets. As was discussed and later recapped in the letter, you agreed to identify 20 Co-op and non Co-op students to fill out the survey.

As stated in our discussion the problem that led to this study is the recognition that student participation in cooperative education programs on the national level is very low. Therefore, the purpose of the study is to determine which work values factors are related to student participation or non-participation in cooperative education programs and what specific factors influence student's decision to participate or not participate in cooperative education programs.

This study will render value to the cooperative education community by providing a greater awareness of work values held by students and other factors that may influence the students' decision to participate in Co-op. An awareness of these values will aid administrators, coordinators, faculty and employers in program planning, recruitment strategies, preparatory orientation/career counseling, and placement.

It will be greatly appreciated if you would return the surveys, as the research cannot be carried out until the surveys are returned.

Having worked on cooperative education for over 17 years, I understand the work demands of this time of the year. However, if you would send in the surveys that you have on hand by Friday, May 15, 1987, it would be most helpful.

As indicated in earlier communication with you, confidentiality of the institutions and individual respondents will be held in strictest confidence.

We will be pleased to send you a summary of the survey results.

Again, I thank you for your assistance and cooperation in this project.

Sincerely,

Josetta

Josetta E. Wilkins

JW/esf

VITA

Josetta Edwards Wilkins

Candidate for the Degree of

Doctor of Education

Thesis: FACTORS INFLUENCING STUDENT PARTICIPATION IN COOPERATIVE EDUCATION PROGRAMS AT SELECTED POST SECONDARY INSTITUTIONS

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Little Rock, Arkansas, July 17, 1932, daughter of the late Laura Freeman and James Wesley Edwards.

Education: Graduated from Merrill High School, Pine Bluff, Arkansas, in 1950; received the Bachelor of Science degree from the University of Arkansas at Pine Bluff in May, 1961; received Master of Education degree from the University of Arkansas, Fayetteville, Arkansas in January, 1967; completed the requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in December, 1987.

Professional Experience: Classroom teacher, Junior/Senior high school counselor; Rehabilitation counselor, Deputy Director, Manpower Training Program, Counselor, Coordinator, Assistant Director and Director, Cooperative Education Program.

Professional Organizations: American Association for Adult and Continuing Education, American Association for Counselling Development, Licensed Professional Counselor State of Arkansas, Arkansas Personnel and Guidance Association, Cooperative Education Association, Inc.