An Investigation of the Traditional and Non-Traditional College Students' Perceived Benefits Regarding Participation in the Cooperative Education Program

Beatrice C. Ullrich
Western Michigan University

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AN INVESTIGATION OF THE TRADITIONAL AND NON-TRADITIONAL COLLEGE STUDENTS' PERCEIVED BENEFITS REGARDING PARTICIPATION IN THE COOPERATIVE EDUCATION PROGRAM

by

Beatrice C. Ullrich

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requirements for the
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Western Michigan University
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AN INVESTIGATION OF THE TRADITIONAL AND NON-TRADITIONAL COLLEGE STUDENTS' PERCEIVED BENEFITS REGARDING PARTICIPATION IN THE COOPERATIVE EDUCATION PROGRAM

Beatrice C. Ullrich, Ed.D.
Western Michigan University, 1988

Cooperative education has become an important component of education. The basis for cooperative education is that learning occurs outside the classroom as well as in the classroom. The shift in employment patterns from an industrial society to a knowledge and information-based society means that many of the existing types of jobs will disappear. The value of cooperative education exists in its ability to provide a transition from school to work and its flexibility to respond to industries' needs and individuals' training needs.

The purpose of this study was to investigate the differences of the traditional cooperative education student and the non-traditional cooperative education student with respect to benefits perceived from the various dimensions of the cooperative education program. Students participating in the cooperative education program at Macomb Community College in Warren, Michigan were selected for this study.

A self-administered questionnaire was used to collect data regarding the various demographic characteristics (age, gender, marital status, prior work experience) and individual needs (primary objective, desired credential outcome, academic achievement, job placement). The chi-square test of independence at an alpha level of .05 was applied to determine differences between the traditional and non-traditional cooperative education students.
Findings of this study identified differences between the traditional cooperative education students and the non-traditional cooperative education students with regards to the primary objective for participating in the cooperative education program and the convenience of the geographical location of the job assignment. No differences were found with regards to the desired credential outcome, grade point average, or time availability of the job placement assignment.

The various aspects which influence the distinction between traditional and non-traditional students, the diversity in the cooperative education methods, and the cooperative relationship between the institution, the employer, and the student has increased the awareness of the complexity in the inter-relationships of the cooperative education program. Through this investigation, additional research is recommended to provide strategies in developing alternatives within the cooperative education program which will better serve the future population in the inter-relationship of academic and work experience.
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An investigation of the traditional and non-traditional college students' perceived benefits regarding participation in the cooperative education program

Ullrich, Beatrice Clementine, Ed.D.

Western Michigan University, 1988

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Beatrice C. Ullrich
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CHAPTER I

INTRODUCTION

Cooperative education, once considered an innovative and unique educational plan, has become an important component of education. Cooperative education is one approach which has been successful not only in upgrading the quality of higher education and making college itself financially attainable for more students, but also in giving students the opportunity to experience "learning in action" (Gibbons, 1969). The model for cooperative education, however, is one which was designed for the traditional student and may be in need of further refinement before similar benefits could accrue to the non-traditional student.

Interchangeable terms for cooperative education are experiential education or learning and work-experience education. These terms refer to programs having the following characteristics: (a) Accredited school time is divided between the classroom and the work-place (alternating school semesters or terms, or dividing work days); (b) the type of work the student is assigned complements his or her learning experience; and (c) the institution and participating employers co-exist as partners in deciding procedures for selection of students, evaluating and reporting student performance, and achieving a blend of program content (Lusterman & Gorlin, 1980).

The basis for cooperative education is that learning occurs outside the classroom as well as in a classroom. Dean Herman Schnieder
(Tyler, 1961) from the University of Cincinnati perceived the combination of work and study as an integral part of the education process. He was convinced that if college students could spend a portion of time working in industry, applying the knowledge and theory gained in school to practical work situations, their education would become more relevant and therefore would be of a higher quality. Haggerty (1981) found that the greatest value of experiential learning for students was providing life experiences outside of the classroom which complemented and enhanced their academic studies.

Cooperative education is one approach in linking the business world and educational programs. The need for this partnership may never be greater than it is today due to shifts in employment patterns and the work society. Businesses will depend on schools to update the training of their current workers and provide experienced high school graduates for future employment needs. Schools and businesses will each be critical to the survival of the other (Cetron, Soriano, & Gayle, 1985b).

The changing face of the work force has seen an increase in part-time work, an increase in white collar occupations, and an increase in the rate of job turn-over (Herr and Cramer, 1984). This change is in response to demand factors which relate to the size and relative distribution of workers across occupations and industries. This is occurring mainly because of a decline in employment in agriculture and manufacturing and increased employment in the areas of clerical, service, professional, and technical workers (Otto, 1986).
The United States has become a service-oriented society instead of a goods-oriented society. This service-oriented society is being dominated by a professional and technical class rather than the managers of the industrial era (Herr & Cramer, 1984). With this shift, it is realized that business and education leaders are encountering increased and new challenges.

The young adult not only has the advantage of choosing between more occupational possibilities, but also more career possibilities (Otto, 1986). While this opportunity structure has changed for the young adult, it has also changed for the older adult. On the average, today's worker changes jobs every four years. This is due to a variety of factors such as: (a) individual interests and values change, (b) technologies become outdated and new ones must be mastered, (c) old skills become obsolete and new ones must be learned, and (d) people's attitudes and basic values change (Otto, 1986).

These changing patterns point to new opportunities for cooperative education development. The objective of cooperative education has been that workers need to link productive work with conceptual learning. A comprehensive cooperative education program that incorporates a variety of interventions or experiential approaches will do much to eliminate the barriers that confront the young adult worker and the adult being re-trained as they make the transition to work and seek work adjustment (Herr, Dambrocia, & Niles, 1986).

Much of the research that has been initiated regarding cooperative education has focused on the perceived values of the work experience; student motivation, employer satisfaction, cost-
effectiveness, job placement and advancement, earnings, student retention, student and employee recruitment, and career development. Also, the research has focused on the comparison of the cooperative education student and the non-cooperative education student.

Although much research has focused on the traditional cooperative education student and the benefits received from participation in the cooperative education program, little research considers the non-traditional students and the benefits obtained with respect to the dimensions of the cooperative education model. The following topics with respect to the cooperative education model will be the focus of this research: (a) career objectives—to gain experience, to gain employment, to clarify career goals, to re-train for different employment, to re-enter the work force, non-career related reasons; (b) desired credential outcomes—certificate, two-year associate degree, transfer to a four year college/university; (c) academic achievement; and (d) job placement concerns—day or evening placement and geographical location of placement.

The traditional cooperative education model presumes that the participating student has had little or no prior work experience. Also, the traditional cooperative education program has served mainly white, middle-class males of traditional college age (Otto, 1986). Changing demographics and labor market trends will change the direction of cooperative education programs. Increasingly, cooperative education students will become older, female, and minority; thus, the different issues that these populations bring should have a significant impact on cooperative education (Otto, 1986). The changing
population in the cooperative education program referred to by Luther B. Otto will be the non-traditional student. Due to the heterogeneity of this group there is "no 'typical' non-traditional student" (Western Michigan University, 1987, p.1). Although, differentiation can be made between the traditional and non-traditional student on the basis of age, full- or part-time enrollment, gender, marital status, and prior work experience. As the average age of college students increases and the emphasis on re-training in industry and business increases, opportunities for cooperative education should exist due to the re-aligning of the relationship between education and the employer community (Varty, 1986).

Statement of the Problem

The shift in employment patterns was predicted by Peter Drucker (1969) when he wrote about America's impending transformation from an industrial society to a knowledge and information-based society (cited in Herr et al., 1986). The shift in employment patterns means that many of the existing types of jobs will disappear, not that there will be a major change in the number of people employed. As Cetron (1983) noted:

Manufacturing will provide only 11% of the jobs in the year 2000 down from the 28% in 1980. Jobs related to agriculture will drop from 4% to 3%. The turn of the century will find the remaining 66% of the work force in the service-sector, up from 68% in 1980. Of the service-sector jobs, half will relate to information collection, management, and dissemination. (p. 15)

The change in the demands of the job market is only one factor in the change of the work force. The composition and the
characteristics of the work force are also changing. These changes include gender, educational level, and age. The affirmative action programs and anti-discrimination laws and the process of consciousness-raising on the part of women and other groups have altered the composition of the work force (Herr et al., 1986). Also, the number of young people in the 18-to-24 age range will diminish significantly in the latter 1980s and 1990s (Abitia, 1985). The population of 18-to-24 year olds in 1980 reached 30.4 million, an all time high. This group has shrunk in 1986 by 5 percent and stands at 28.5 million. During the next 15 years the 18-to-24 year olds are expected to decline by more than 7 million ("Help Wanted," 1986).

With the change in the demands of the job market and the work force, it is evident that an increasing number of workers will need to learn new skills. The inter-relationship between education and work provided by cooperative education programs may be the best approach for preparing students and workers for the future job market.

The primary objective of education in the future will be to prepare students for the rapidly changing job market. As stated by Cetron, Soriano, and Gayle (1985a):

Schools will train both youth and adults; adult workers will need re-education and re-training whenever business and industry update their operations. In the future, workers will be displaced frequently and will be moving constantly from one occupation to another. They will need periodic re-training because each new job will be different from the previous one. (p. 18)

Cooperative education has an important role at all levels of education, but it could have a greater part in higher education and
the re-training of adults. The differences between the young adult and the older adult participating in the cooperative education program must be investigated and recognized in order to join education and work within the cooperative education experience. The need exists not only to fit individuals to programs, but to fit programs to individuals as well (Herr & Cramer, 1984). The cooperative education approach may become an important aspect in the link between business and education as the job market changes and the work force becomes more heterogeneous. The purpose of this study is to investigate the differences of the young adult cooperative education student (traditional student) and the older adult cooperative education student (non-traditional student), establish the aspects of cooperative education which would be beneficial to the older adult, and thereby offer recommendations for a cooperative education model which would provide similar benefits to the traditional student and non-traditional student.

The basic question addressed by this study will be: Do traditional and non-traditional cooperative education students differ with respect to benefits received from the various dimensions of the cooperative education model? The traditional cooperative education student is defined as the younger adult with no significant break in education; while the non-traditional cooperative education student is an adult learner with a significant break in education (one year or more). This basic question will be viewed from the perspective of four subsidiary questions:
1. Are there differences between the career objectives (to gain experience, to gain employment, to clarify career goals, to re-train for different employment, to re-enter the work force, and for non-career related reasons) of the traditional cooperative education student and the non-traditional cooperative education student?

2. Are there differences between the desired credential outcome (certificate, two-year associate degree, transfer to a four year college/university) of the traditional cooperative education student and the non-traditional cooperative education student?

3. Are there differences between the academic achievement of the traditional cooperative education student and the non-traditional cooperative education student?

4. Are there differences between the job placement concerns (day or evening placement and geographical location of placement) of the traditional cooperative education student and the non-traditional cooperative education student?

Significance of the Study

Studies have been conducted regarding the values of cooperative education in various participating groups and at a variety of educational levels. The studies have supported the belief that education should be more relevant to work and that experiential learning is an important means of achieving that end (Berg, 1970). Cooperative education programs, according to Cross (1974), are increasingly popular because of the problems plaguing established American higher
education. Some of the problems solved by cooperative education as noted by Patterson and Mahoney (1985) are:

It helps students bridge the gap between work and learning by opening practical work experience opportunities; it brings the workplace and the curricula closer together; it provides direct services to community organizations; it builds a communication channel that will lead to continual cooperation between the college and local organizations; and it contributes to local economic development by providing a steady flow of highly qualified, appropriately skilled workers for the employers in the region.

(p. 19)

But, previous studies do not address the new challenges for cooperative education. The need to equip people to change must be provided by the educational institution. As our society changes, so will the skills and knowledge need to change.

This investigation, which will focus on the student, may serve as one factor in substantiating the differences in the traditional student and the non-traditional student participating in the cooperative education program. In establishing these differences, the aspects of the cooperative education program which are beneficial to the non-traditional student may be evaluated, enabling the cooperative education program to become more flexible and accommodate the training needs of the changing work force.

Overview of the Study

This chapter presented an introduction to the study. Included was a description of the background of the problem, the educational trends related to the problem, the statement of the problem, the research questions being studied, and the purpose and importance of the
study. The review of literature in Chapter II will include the historical background of cooperative education and will review the definition and classification of cooperative education in greater depth. The chapter will acquaint the reader with existing studies relative to the benefits of cooperative education programs, the differences in the perceived needs of the traditional and non-traditional student participating in the cooperative education program, and future trends which will provide the basis for the analysis of the present study. A description of the population, instrumentation, and research procedures of the study will be presented in Chapter III. Chapter IV will discuss the analysis and evaluation of the data. Included in Chapter V will be the summary to the study, conclusions, and recommendations for future research.
CHAPTER II

REVIEW OF THE LITERATURE

Studies have been done that acknowledge the role of cooperative education and the benefits of the cooperative education program (Kane, 1985; Phillips, 1977; Taylor & Webb, 1984; Weston, 1983; Wilson, 1984; Wiseman & Page, 1983). The purpose of this chapter is to review the literature that supports the various aspects of this research.

This chapter provides a review of literature in four topical areas:

1. Historical background of cooperative education;
2. The function of cooperative education and the relationship of the participants in a cooperative education program;
3. The future job market and work force trends and the implications these trends will have on cooperative education; and
4. The potentials and problems of the cooperative education in regards to the participants (benefits perceived and differences in the needs of the traditional and non-traditional student); thus, establishing the premise for the hypotheses.

The chapter culminates with a summary of the literature review and a description of how the findings relate the benefits of the cooperative education program to the implication of the changing job market and work force trends.
History of Cooperative Education

Cooperative education has been recognized for its value in experiential education. The combination through cooperative education of school curricula and work experience has seen a growth, especially in the past twenty years (Heineman, Wilson, Heller, & Craft, 1982). Institutions with existing cooperative education programs have increased their programs and many others have decided to introduce cooperative education into their curricula.

Cooperative education was established in higher education by Herman Schneider (Heineman et al., 1982), an engineering professor and dean at the University of Cincinnati. He was the first to consider formally linking university-level study with practical work experience. He perceived that university-based classroom and laboratory experiences alone were not adequate for the education of an engineer and observed that most students sought part-time work while attending college (Park, 1943). This program, incorporating practical and productive work experience into the educational curricula and implemented at the University of Cincinnati in 1906 for engineering students, was the first cooperative education program in the United States. By 1956, 55 institutions implemented cooperative education programs, mainly in the engineering and business disciplines.

In 1957, Charles Kettering, Research Director of General Motors, organized and funded a conference which was attended by representatives of over 80 colleges and universities and 100 corporations. The
purpose of the conference was to examine existing models of cooperative education in order to help cooperative education realize its enormous growth potential (Porter & Nielsen, 1986). Kettering and participants decided that the merits of cooperative education needed to be studied and documented. This study, also called the Ford Foundation study, was conducted by Ralph Tyler, James Wilson, and Edward Lyons and the results were published in 1960. The conclusion of this study was that "cooperative education has important values for colleges and universities, for students, and employers and that not only should these values be given wide publicity, but cooperative programs in American higher education should be greatly extended" (cited in Wilson, 1971, p. 17).

Seventy-one, or approximately 3%, of the nation's post-secondary institutions had cooperative education programs by 1961 (Collins, 1968). During the same year, the Kettering Foundation sponsored the Princeton Conference to announce the results of the Tyler-Wilson-Lyons research (Porter & Nielsen, 1986). As a result of the Princeton Conference and a Kettering Foundation grant, the National Commission for Cooperative Education (NCCE) was established to give assistance to institutions planning to adopt cooperative education and to lead the expansion of cooperative education. The number of programs reporting participation in cooperative education in fourteen curricular areas are shown in Table 1.
<table>
<thead>
<tr>
<th>Field</th>
<th>Junior College</th>
<th>Senior College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>136</td>
<td>65</td>
<td>201</td>
</tr>
<tr>
<td>Applied arts and crafts</td>
<td>82</td>
<td>72</td>
<td>154</td>
</tr>
<tr>
<td>Architecture</td>
<td>71</td>
<td>49</td>
<td>120</td>
</tr>
<tr>
<td>Business</td>
<td>354</td>
<td>367</td>
<td>721</td>
</tr>
<tr>
<td>Computer science</td>
<td>123</td>
<td>134</td>
<td>257</td>
</tr>
<tr>
<td>Education</td>
<td>170</td>
<td>207</td>
<td>377</td>
</tr>
<tr>
<td>Engineering, pre-engineering</td>
<td>122</td>
<td>181</td>
<td>303</td>
</tr>
<tr>
<td>Health professions</td>
<td>185</td>
<td>158</td>
<td>343</td>
</tr>
<tr>
<td>Humanities, fine arts</td>
<td>129</td>
<td>210</td>
<td>339</td>
</tr>
<tr>
<td>Physical science, mathematics</td>
<td>98</td>
<td>250</td>
<td>348</td>
</tr>
<tr>
<td>Secretarial science</td>
<td>271</td>
<td>100</td>
<td>371</td>
</tr>
<tr>
<td>Social and behavioral sciences</td>
<td>195</td>
<td>277</td>
<td>472</td>
</tr>
<tr>
<td>Technologies</td>
<td>238</td>
<td>131</td>
<td>369</td>
</tr>
<tr>
<td>Vocational arts</td>
<td>113</td>
<td>47</td>
<td>160</td>
</tr>
</tbody>
</table>

Source: Cooperative Education Research Center (1980)
There was little expansion in cooperative education programs from 1906 to 1961. The programs did, however, establish a time of development, problem solving, and of gaining acceptance. Through the NOCE, the number of institutions participating in cooperative education programs tripled between 1960 and 1970. From 1972 to 1983 a steady growth in cooperative education programs had been recorded (Figure 1).

Figure 1. Estimates of the Population of Cooperative Education Programs, 1972-83 (Cooperative Education Research Center, 1984).
Classifications of Cooperative Education Programs

The classification of cooperative education is based on the method of program operation. The method of program operation is the manner in which the classroom learning is linked to the work experience. Four methods of program operation are identified as: (1) alternating, (2) parallel or concurrent, (3) field, and (4) extended day (Wilson, 1975).

**Alternating**

The participating students in the alternating method are divided into two groups. The two groups alternate between periods (usually semesters or quarters) of full-time study and full-time work. While one of the groups attends classes, the other group goes off campus on cooperative work assignments. At periodic intervals, the groups change places. With this method, the work assignments are usually always paid and career-related. The alternating method is popular with employers because it allows for or ensures year-round coverage of the job assignments, but complicates administrative procedures for the institution due to the elimination of the traditional summer vacation in academic calendars.

**Parallel or concurrent**

The participating students in the parallel or concurrent method attend classes part-time during one segment of the day. During the other segment, the students work part-time. Therefore, the study period and the work period are parallel with one another. Jobs in
the parallel method are almost always paid positions and career-related. The parallel method eliminates many of the administrative problems associated with the alternating method, but limits the student placement within commuting distance of the institution.

**Field**

The participating students in the field method leave the campus for a specified period of time. This specified period of time occurs no more than once in a given year and at this time the campus closes. The specified period of time often occurs during the month of January; therefore, it is often referred to as the "January" or "Jan Plan" or the "4-1-4 Plan" (students attend classes for four months, leave on their field experience for one month, and then return to the campus for four months). Difficulties occur with the field experience in finding jobs that are both paid and directly related to the student's career goals or major field of interests.

**Extended day**

The participating students in the extended day method are employed full-time and attend classes part-time. Students usually attend these classes part-time in the evening. This method of program operation is only considered a cooperative education experience if the work experience is related to or equates the student's study needs and interests and if it receives faculty approval. The extended day method has gained acceptance with the growth of continuing and adult education programs and attracts an older student population.
seeking promotional opportunities or self-development.

The method of operation used is designed to fit the needs of the particular institution, the students to be served, and the cooperating employers. The greatest strength of cooperative education to the co-partners involved is in its operational flexibility. The distribution of the various methods of program operation is shown in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Methods</th>
<th>Percent of Junior College Programs</th>
<th>Percent of Senior College Programs</th>
<th>Percent of All Programs</th>
</tr>
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<tbody>
<tr>
<td>Alternating</td>
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<td>31</td>
</tr>
<tr>
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<td>5</td>
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<tr>
<td>Parallel</td>
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<td>14</td>
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<tr>
<td>Extended Day</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Alternating and Field*</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Alternating and Parallel*</td>
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<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Parallel and Extended Day*</td>
<td>20</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Other Combinations*</td>
<td>20</td>
<td>16</td>
<td>19</td>
</tr>
</tbody>
</table>

* These programs conduct simultaneously two or more of the principal types of program.

Source: The annual census of cooperative programs at the Cooperative Education Research Center (1980).
Summary of the History of Cooperative Education

Cooperative education was perceived by Herman Schneider as the link between university-level study and practical work experience and is based on the premise that meaningful learning occurs outside the classroom. Cooperative education is defined as an educational program which combines the student’s academic study with off-campus work experience related to their chosen field of study. The following characteristics are found in cooperative education programs: (a) Accredited school time is divided between the classroom and the workplace, (b) the type of work the student is assigned complements his or her learning experience, and (c) the institution and participating employers co-exist as partners in deciding procedures for selection of students, evaluating and reporting student performance, and achieving a blend of program content.

The classification of cooperative education is based on the manner in which the classroom learning is linked to the work experience. Four methods are identified as: (1) alternating, (2) parallel or concurrent, (3) field, and (4) extended day.

Cooperative Education

Cooperative education is an educational plan which integrates productive work experience into a student’s regular program of study. The plan entails a cooperative and collaborative relationship between the institution, the employer, and the student.
Definition of Cooperative Education

Cooperative education is first and foremost an educational program which combines the students' academic study with a work experience related to their chosen field of study. Cooperative education generally refers to programs with the following characteristics (Lusterman & Gorlin, 1980):

1. Students divide their accredited school time between classroom and work place—alternating school terms or dividing days.
2. The nature of the work that students perform is meant to complement their learning experience.
3. Schools and employers collaborate on procedures for selecting participants, evaluating and reporting student performance, and achieving some blending of program content.

The program brings together the student, educational background, and occupational opportunity (Mitchell, 1977). The practice of cooperative education includes such areas as internships or practica, off-campus career oriented opportunities as well as non-career oriented opportunities, and alternative educational opportunities.

Cooperative education is based on the premise that meaningful learning occurs outside the classroom as well as in the classroom. The cooperative educational program, a combination of work and education, prepares students for skilled employment and can help to alleviate problems occurring due to a change in the job market and work force. Cooperative education represents a working partnership in which an educational institution joins with an employer in a
structured relationship. This partnership assists students in learning employment skills of both a manipulative and a human relations nature under the supervision of an employer and also fulfills the requirements of a particular educational program (Wooldridge, 1966).

**Function of Cooperative Education**

The function of cooperative education is demonstrated by Gerald S. Thomas (1969) in the shape of a triangle (Figure 2). The triangle is equilateral since all of the participants involved have equivalent interests, obligations, and responsibilities. Each side of the triangle represents one of the participants in the cooperative relationship. The institution, the employer, and cooperative education student are shown to share equally in the development and progress of this three-sided affair. The interior of the triangle represents the inter-relationship of the three areas and demonstrates the lines of communication. Cooperative education is not just a concept or theory, but an activity.

The cooperative education student relies on the institution to provide education and theory which will be applied in the cooperative position. The employer depends on the institution as a source for potential permanent employees. With the recruitment of employees, the institution and the employer work closely together in the placement and evaluation of the performance of the cooperative education student on the job.
Summary of Cooperative Education

Cooperative education is based on the premise that meaningful learning occurs outside the classroom as well as in the classroom; thus, it combines the student's academic study with work experience related to his or her chosen field of study. The function of cooperative education can be viewed as an equilateral triangle. The participants involved in the program are identified as the institution, the employer, and the cooperative education student. Each side of the triangle represents equivalent interests, obligations, and re-
The problems related with the change from a goods-oriented society to a service-oriented society have not yet been fully comprehended by education and/or business. With the uncertainty of enrollment patterns in the educational institutions and the unclear future employment markets, cooperative education should play an important role in the world of the future.

**Education**

Education must equip people to change. Therefore, a major responsibility of schools in the future will be to prepare students to enter a rapidly changing job market. It is predicted by futurists, Cetron, Soriano, and Gayle (1985), that in the near future workers' jobs will change dramatically, every 5 to 10 years, and schools will be responsible to train adults as well as youth. The adult workers will need re-training and re-education whenever business and industry update their procedures.

By 1990, most adults will be working a 32-hour week and during the time they are not working, many will be preparing for their next job (Cetron et al., 1985a). The workers will be displaced more frequently and will be moving from one occupation to another. This will create a need for re-training because each job will be different from the previous one.
Factors which will affect schools in the 21st century are
(Cetron et al., 1985a):

"* Total employment will rise by 17% to 25% as the work week
declines to 32 hours (1990) and then 20-25 hours (2000).

* Women, particularly married women, will enter the work
force at a faster rate than any other group within the pop-
ulation.

* More businesses will be involved in schools, including ap-
prenticeship training.

* During the next 15 years the 18-to-24 year olds are expected
to decline by more than 7 million.

* Older citizens (over 55) increasingly will participate in
school programs." (p. 19)

The educational levels of the worker has also increased. In re-
cent years the following areas have shown an increased percentage
growth: (a) High school graduates in the 25-or-older population, (b)
college graduates, and (c) the 18-to-24 year-old population enrolled
in college (Otto, 1986). With these growths, upgrading educational
requirements for all jobs will be a factor and education alternatives
will need to be investigated. Education levels will become an in-
creasingly important qualification in the future years as the skills
required to perform jobs become more complex (Otto, 1986).

Work Force/Job Market

A clean-cut profile of the American worker in the past is given
by Robey and Russell (1984):

He worked in a factory, on a farm, or in an office.

His collar was blue or white.

And he was a he. (p. 17)
This profile represents the world of work that cooperative education students prepared to enter (Otto, 1986). To understand the direction of change in the labor market and the implication for cooperative education, it is useful to consider the long-term labor market trends (Otto, 1986).

The United States has shifted from being a goods-oriented society to being a society that is service-oriented in nature. Furthermore, this service-oriented society is one that is dominated by a professional/technical class rather than by the businessmen and managers of the industrial age. There has also been an increase in part-time work, an increase in white collar occupations, and an increase in the rate of job turn-over experienced by workers today (Herr & Cramer, 1984). These changing patterns point to new opportunities for cooperative education development (Otto, 1986).

The shift from a goods-oriented society to a service-oriented society is not the only way the work force is changing. The characteristics of the worker is also changing in regards to age, gender, educational level, and race.

The baby boom generation today is between the ages of 20 and 39. The work force is young, but growing older. By 1990 the median age will be 36 and by 1995 the median age will be 37. By the end of the first quarter of the 21st century, the population bulge will be ages 55 to 74—workers approaching retirement and senior citizens (Otto, 1986). In 1982, about 60% of the working population was under the age of 40. In the year 2000, if the working age is still considered
to be between 18 and 65, only half that population will be under 40 (Cetron et al., 1985b). The work force is growing older.

The future will also procreate more women into the work force. From the 1980s on into the 21st century, there will be more women than men in the United States population. More women than men will attend college, enter the work force, and start their own businesses. With more than one million women entering the marketplace each year, by 1990 the majority of America's workers will probably be women (Cetron et al., 1985).

The relationship between education and employment has always been a predictor of labor force participation. Women's education levels are converging with those of men. The higher the person's education level, the more likely it is that she or he is employed (Otto, 1986). As Cetron, Soriano, and Gayle have predicted (1985b):

Women will continue to enter professional fields in greater numbers, may not interrupt their careers for child-bearing, and will have more influence on policymakers in government and business because they will be wealthier, hold more powerful positions, and be more numerous than before. Another group of women will have more influence, not because of their wealth, but because of their poverty. In the early 1980s, 1 in every 7 families was headed by a woman—up from 1 in 10 families in 1960—and roughly 40% of these families were below the poverty level. In the future, the woman heading a family whose income is below the poverty level may receive day-care assistance from government programs in schools that may be training her for a new job (pp. 67-68).

The potential re-entry of these women is hindered often times by the same factors that caused her not to continue her education initially.
Summary of Future Trends

The different concerns and issues brought about by the various changes (education, age, gender, minorities, and job market) will have a vital impact on cooperative education. The central message in the changing face of the work force is that increasing numbers of workers need to link productive work with learning. Increasing numbers of out-of-school adults are returning to or, for the first time, entering postsecondary education to upgrade skills, increase earning power, prepare for career change, or simply to learn how to enjoy time more fully. These adults are receptive to programs which provide credit for prior learning or abilities gained from life experiences (Arbeiter, 1981). The inter-relationship between education and work that cooperative education affords students may very well be one of the best tools for preparing students for tomorrow's dynamic world of work (Otto, 1986).

Potentials and Problems

The cooperative education program's focus is on individuals — students, faculty, and employers, because of this three-dimensional emphasis many general benefits to help the institutions achieve their educational objectives are observed. These include: (a) The institution helps the student bridge the gap between work and learning by opening practical work experiences, (b) the institution brings the work-place and the curricula closer together, (c) the institution provides direct services to community organizations and builds a
communication channel that will lead to continual cooperation between college and local organizations, and (d) the institution contributes to local economic development by providing a steady flow of qualified, appropriately skilled workers for the employers in the region. These general benefits of the cooperative education program extend into specific benefits for the three components (students, faculty, employers) (Patterson & Mahoney, 1985).

The provision within an institution of a cooperative educational program does not assure the desired ends. Problems with staffing, communications, student campus life, employer relations, and quality occupational opportunities must be accounted and planned for within the educational plan (Heerman, 1973).

Potentials of the Cooperative Education Program

The primary objective of the cooperative education program is to provide the student with the opportunity of involvement in an occupation and helps to validate the occupational choice. The student upon enrollment in the institution has needs to be fulfilled, one of which is the preparation for employment. The enrollment in the cooperative education program is a major tool in helping to fulfill this need.

Studies involving the traditional college age student indicate the benefits gained by students who participate in cooperative education are many (Heerman, 1973). Some of these benefits can also be gained by the non-traditional student. Table 3 identifies these benefits and indicates the benefits that apply to each group.
<table>
<thead>
<tr>
<th>Benefits</th>
<th>Traditional Student</th>
<th>Non-traditional Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps to decide career</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Increases potential for placement</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Increases potential for advancement</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Increases potential for remuneration</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Assume responsibility (maturation)</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Relates academic performance and job success</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Develops attitudinal skills critical to successful job performance</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Provides a match of job to personal needs</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Develops skills in working with others</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Supplements financial resources</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Develops self-esteem</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Bridges the generation gap</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Develops social skills</td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>Clarifies and establishes goals and priorities in career planning</td>
<td>XX</td>
<td>XX</td>
</tr>
<tr>
<td>Identifies the skills needed to enter a chosen field</td>
<td>XX</td>
<td>XX</td>
</tr>
</tbody>
</table>
Barriers for Non-Traditional Students

Barriers have limited the non-traditional students participating in cooperative education because the programs are designed for a different population. Some of these barriers, as noted by Fisher-Thompson (1980), are:

1. Some programs are open only to undergraduates while many re-entry students are pursuing graduate courses.
2. The programs may be geared to young, inexperienced students and may not provide slots for adult learners who have already handled a great deal of responsibility.
3. The subjects in which cooperative education is available may not coincide with their employment goals.
4. Academic credit may not be available for the work experience, which would slow down progress toward graduation, especially if the re-entry student is attending part-time.
5. Job placements may not be available on a part-time basis.
6. The work schedules of the cooperating business may be too inflexible to accommodate a re-entry student.
7. There may not have been any attempt to acquaint the re-entry student with the option of cooperative education.

These barriers often occur because colleges and businesses believe that the greatest pool of employable talent is found within the 18-22 year old student population; thus, they cater to this group (Fisher-Thompson, 1980). Colleges and businesses may be unintentionally closing the door on adult students who with their potential may
bring maturity and expertise to the task of learning new skills by focusing on the needs of the young student.

**Career Development**

A survey of over 100 collegiate cooperative education programs (Chase, 1971) reveals that the primary objective of their cooperative efforts is "career development." With regards to this objective, Miller (1971) indicates that a characteristic of a cooperative education student is the inclination to be career-oriented. Wilson (1974) stated that cooperative education students tend to view career development with increasing significance across time and show less career uncertainty than non-cooperative education students. Cooperative education helps markedly to orient college students to the world of work. Most college students are greatly concerned about their future life work; thus, they want to know more about the range of occupations available to them, the potentials and limitations of their fields, the qualifications demanded by the occupation, and their own fitness for the occupation (Tyler, 1961). Cooperative education provides students with opportunities for exploring their own abilities in connection with real jobs. Furthermore, they have the opportunity to test their own aptitudes more fully than is normally possible on the campus.

Perry (1981) indicates two major challenges facing higher education in the decade of the 1980's and beyond. One is the development of experiential programs such as cooperative education in
order to help students identify their career goals and to relate them to their academic achievement. The second is to respond to the needs of an increasingly larger population of adult college students. Since the inception of cooperative education in 1906 (Knowles & Associates, 1971), cooperative education has been in the forefront of programs for total career preparation.

Traditionally, cooperative education concentrates on needs of the young student (Herr et al., 1986) in total career preparation. Since the primary goal of cooperative education is to prepare the student for gainful employment (Evans & Herr, 1978), the potential for cooperative education to serve the changing profile of the American labor market is evident. Today's focus dictates that cooperative education must attend to the special needs of the non-traditional student as well and address the interface between the individual, the employer, and the individual's surroundings (Herr et al., 1986).

This study focuses on two areas of total career preparation. One is the career objectives (gain experience; gain employment; clarify career goals; re-train for different employment; re-enter the work force; non-career related reasons) of the individual. The second is the desired credential outcome (certificate; two-year associate degree; transfer to a four year college/university) of the individual. What seems apparent from the research is the need for cooperative education to expand its purposes in order to accommodate the needs of an increasingly heterogeneous workforce. Furthermore,
the program should consider the concerns of the workers throughout their life span and be perceptive to the individual's career needs. These issues raise the following questions: Are there differences between the career objectives of the traditional and the non-traditional cooperative education student? Are there differences between the desired credential outcome of the traditional and the non-traditional cooperative education student?

**Academic Achievement**

Cooperative education integrates theory and practice recognizing that theory without practice is sterile and that practice without theory is superficial (Farrow, 1980). The cooperative education program coordinates the work experience with the educational program; thus, theory and practice are more closely related and students find greater meaning in their studies (Wilson & Lyons, 1961). This coordination of work and study increases student motivation (Tyler, 1961). As students realize connections between jobs they hold and the things they are learning on the campus, greater interest in academic work develops.

Studies by Smith (1965) and Lindenmeyer (1967) found that cooperative education students as a group had a higher grade point average and a lower percentage of failure and attrition as compared to non-cooperative education students. Also, the need for intellectual achievement increased greatly from the freshman to senior year in the cooperative education group (Marks & Wohlford, 1971).
A comparison of grade point average and attrition rates reveal a superior performance for the cooperative education students over non-cooperative education students (Gore, 1972; Lindemeyer, 1967; Marks & Wohlford, 1971; Smith, 1965). In addition, Baron (1968) studied fourteen demographic variables as they relate to academic achievement of community college students and found that only two variables are strongly correlated to academic success; one of those variables was work experience. The relationship of academic success and work experience shown in the research suggests a great impact on the participants of the cooperative education program and the program itself.

A study by McNutt and Herman (1974) found that seventy-two percent (72%) of cooperative education students had a higher grade point average (GPA) and showed a high correlation between hours worked and GPA than non-cooperative education students. The implications are that employed students are more likely to be successful students. In January, 1974, Fresno City College sponsored a study by Peart to explore certain aspects of the cooperative education program. Seventy-one percent (71%) of the respondents agreed that gaining a better understanding of the relationship between classroom theory and practical application was one of the most valuable phases of the cooperative education program (Peart, 1974). Items descriptive of benefits gained by cooperative education were also ranked by Peart. Of the 398 students who completed the questionnaire, 178 stated that cooperative education made their college more meaningful.
and 233 stated that they had gained a greater appreciation of learning and performance objectives.

In our culture, the central means of proving one's worth is through successful achievement in work; thus, cooperative education offers the student an opportunity to gain self-esteem through the coordination of work and study. There is strong support for the expectation that cooperative education contributes to the academic achievement and competence of students and that it provides an opportunity for students to relate theories to application by authors who are well known in the field (Brown, 1971; Collins, 1973; Dube, 1971; Harris & Grede, 1977; Horn, 1971; Tyler, 1971; Willis, 1980; Wilson, 1971). Furthermore, cooperative education students are better able to identify and define problems and take the responsibility for problem-solving within the context of a work setting (Heerman, 1973; Robertson, 1978; Tyler, 1971).

These studies suggest that the cooperative education experience contributes positively to the development of competence and academic achievement of the traditional cooperative education student. But previous research does not address the needs of an increasingly larger population of the adult college student, the non-traditional student. Are there differences in the academic achievement of the traditional cooperative education student and the non-traditional cooperative education student?

Problems of the Cooperative Education Program

Problems identified with cooperative education programs fall
into four categories. These categories are as follows:

1. the effect of economic and employment factors on the development of occupational opportunities.
2. the impact of the placement on student life.
3. the educational issues of the program.
4. concerns of cooperative administrative practice.

Economic and employment

Cooperative education programs are contingent on the development of occupational opportunities. As noted earlier, career development is the primary objective of the cooperative education program; therefore, the economic environment on occupational availability and the employment restrictions on the placement of the student is not only detrimental to the student, but also the entire program.

The economic environment is a critical factor impinging on program success. The employer decision to take on student trainees (cooperative education students) is conditional in part by the nature of the economy as reported by Wilson and Lyons (1961). Also, employment for students may also be limited by hiring restrictions imposed by the government and by the unions (Barlow, Billings cited in Heerman, 1973, p. 45; Wilson & Lyons, 1961). The quantity and quality of placements will fluctuate throughout the student's program and thus, may present a problem to the participants and the program. A solution to this problem is the existence of an aggressive and conscientious coordination effort with close working relationships with employers (Heerman, 1973).
**Educational relevance**

The educational issues of the cooperative education program have been questioned. Often there is a weak relationship between study and work activities by the student (Barlow, Bonnell, Johnson, Koos, Rauh cited in Heerman, 1973, p. 46). The employer limits the student to one narrow function instead of giving him exposure to a number of different jobs (Barlow cited in Heerman, 1973, p. 46). The employer encourages the student to work full time, causing him or her to drop out of school (Barlow, Hayes cited in Heerman, 1973, p. 46). The employer can influence the student to place too much emphasis on "what is the current practice" rather than "what should be the current practice" (Plachta, 1969, p. 19). Also, students who view the work experience as only financial aid may not realize the educational values of cooperative education (Bonnell, Hayes, Johnson cited in Heerman, 1973, p. 47; Wilson & Lyons, 1961). The five years of college required by most cooperative education programs are often viewed as a handicap by students. Most of the problems noted above could be solved with adequate supervision and counseling, but the supervisory skills of the program coordinators vary widely.

The inability of the program to integrate study and work components may demonstrate itself in a student with a dual personality — a campus personality and a work personality, and these two personalities may not be seen as interrelating (Leuba, 1964). The studies suggest that these factors may impact the traditional cooperative education student with regards to campus life more than the non-traditional cooperative education student, assuming the non-traditional
cooperative education student spends less time on campus due to other commitments (family, employment).

**Administrative breakdown**

Administrative breakdown, which is the failure to promote the value of cooperative education, is caused by inefficient communication (internally and externally) (Barlow cited in Heerman, 1973, p. 48). This inefficient communication causes a lack of commitment by college administration, staff departments, faculty, and community to the cooperative education program (Billings, 1970). Barlow (Cited in Heerman, 1973, p. 48) suggests that cooperative education programs sometimes lack status among faculty members. Wooldridge (1964) points out that at one time educators saw a meaningful college education as an association with a community of scholars in the intellectual atmosphere of the campus removed from the competition of everyday life. This resistance often results in a passive faculty that does not interrelate student experiences with classroom theory in class discussions (Wilson & Lyons, 1961). Wooldridge (1964) notes that an absence of trust and understanding between education and industry produced a climate incompatible with cooperative education, since "businessmen felt that educators were cloistered in their ivory towers" and educators saw businessmen as "entirely profit motivated" (p. 14). This absence of trust and understanding between education and industry could prove to be a detriment for cooperative education participants.
Placement on student life

A number of factors which complicate the placement of the student and impact student life are expressed by Heerman (1973). The placement of a student in an occupational setting must be appropriate by striking a balance between the perceived needs of the student and the employer and having a degree of challenge. Students complain that they are often assigned repetitive and menial jobs (Barlow, Bonnell, Hayes cited in Heerman, 1973, p. 45; Wilson & Lyons, 1961). The geographic proximity of the student and coordinator in the placement position and the problem of scheduling classes convenient to students during study periods are also problems which effect the cooperative education program. Several studies show that scheduling problems have occurred because of outlying geographical placement of students (Johnson cited in Heerman, 1973, p. 45; Billings, 1970;). Participation in cooperative education programs reduces the students' ability to participate fully in college life by eliminating student activities because of work obligations and reduces the time spent in the classroom (Koos, Portman cited in Heerman, 1973, p. 45).

The placement position may have greater impact for the non-traditional cooperative education student than the traditional cooperative education student. The assumed disadvantages regarding the non-traditional cooperative education student would include family commitments and full-time employment commitments (day or evening). If these differences exist, there will be a need to re-examine the traditional cooperative education model and adapt new strategies and
alternatives. This raises the question: Are there differences between the job placement concerns of the traditional cooperative education student and the non-traditional cooperative education student?

**Summary of Potentials and Problems**

There are various potentials and problems associated with the cooperative education program. The primary objective of the cooperative education program is to contribute positively to the development of the cooperative education student. The cooperative education model focused on the needs of the traditional student, but evidence indicates that the increase in population of the non-traditional student and the differences in their needs will dictate a refinement of the dimensions of the cooperative education program.

**Statement of the Research Hypotheses**

With the indication that cooperative education presents barriers to the non-traditional student and focuses on the traditional students' needs, questions arise as to the differences in the needs between the traditional student and the non-traditional student participating in the cooperative education program. This investigation focuses on the independent variable of student type, the traditional student and the non-traditional student participating in the cooperative education program. The dependent variables are the needs sought by the student type. These student needs are defined as primary career objective, desired credential outcome, grade point average, and...
job placement concerns. The research questions addressed in this investigation deal with the differences in the student needs between the career objectives of the traditional and the non-traditional cooperative education student, the differences in the student needs between the desired credential outcome of the traditional and the non-traditional cooperative education student, the differences in the student needs between the job placement concerns of the traditional and the non-traditional cooperative education student, and the differences in the academic achievement of the traditional and the non-traditional cooperative education student.

This study therefore has identified the following research hypotheses to be tested and analyzed:

1. There will be a difference between the primary career objectives of the traditional cooperative education student and the non-traditional cooperative education student.

2. There will be a difference between the desired credential outcome of the traditional cooperative education student and the non-traditional cooperative education student.

3. There will be a difference between the academic achievement of the traditional cooperative education student and the non-traditional cooperative education student.

4. There will be a difference between the job placement concerns of the traditional cooperative education student and the non-traditional cooperative education student.
Chapter Summary

This chapter has presented a review of the literature related to cooperative education. Background information was given on the history, function, potentials and problems, and the job market and work force trends.

The cooperative education model was designed in regards to the needs of the traditional student. With the increase of the older adult student population and the speculative changes in the job market and work force, the dimensions of the cooperative education model may be in need of refinement.

Differences are thought to exist between the needs of the traditional and the non-traditional student. These differences are due to career development, desired credential outcome, academic achievement, and job placement concerns. This study is designed to test the hypotheses presented.

Chapter III will discuss the specific methodology of this study.
CHAPTER III

METHODOLOGY

The primary purpose of this study is to examine the differences between the traditional and the non-traditional cooperative education student with respect to the dimensions of the cooperative education model. This chapter contains a description of the method of study which was used to conduct the examination. Included in this chapter are five major areas of methodological development: (1) the research design, (2) the population and sample under study, (3) the instrumentation, (4) data collection procedure, and (5) the data analysis procedures.

Research Design

The independent variable in this investigation is student type of those who participate in the cooperative education program. Further, the independent variable has a nominal level of measurement, and has two categories. The first category of student type is the traditional cooperative education student. The second category is the non-traditional cooperative education student. The traditional student is that student who enrolls in the community college directly after high school graduation and does not experience any break in education. Thus, this student would begin the community college at 17 to 18 years of age and would be categorized as a younger adult (traditional) student. The non-traditional student is an adult
learner who has experienced a break in education. As stated in Chapter I, for the purpose of this investigation, the traditional cooperative education student is defined as the younger adult student who has not experienced a break in education; while the non-traditional cooperative education student is the adult learner with a break in education.

A survey conducted by Western Michigan University (1987) regarding non-traditional students showed "there is no 'typical' non-traditional student due to many differences found between men and women, graduates and undergraduates, day and evening students, and part-time and full-time students" (p. 1). This observation was also viewed by Bean and Metzner (1985) as they focused on the non-traditional student. They stated that it is very difficult to develop a profile of a typical non-traditional student due to the heterogeneity of the group. Although these two groups, traditional and non-traditional students, can be differentiated on the basis of a break in education, age, full- or part-time enrollment, gender, marital status, and prior full-time work experience.

Since it is not clear that any one factor determines a traditional or non-traditional cooperative education student, the questionnaire sought other demographic data. These data assisted the inclusion of secondary independent variables which were measured. More specifically, these secondary independent variables are: (a) age, (b) gender— male, female, (c) marital status— single, married, divorced, separated, widowed, and (d) prior work experience.
These secondary variables were used to test for other factors of significant influence in differentiating the benefits accrued by the traditional and non-traditional student through participation in the cooperative education program.

The dependent variables include: (a) primary career objective (to gain experience, to gain employment, to clarify career goals, to re-train for different employment, to re-enter the work force, and for non-career related reasons) of the traditional and the non-traditional cooperative education student (nominal level of measurement); (b) desired credential outcome (certificate, two-year associate degree, transfer to a four year college/university) of the traditional and the non-traditional cooperative education student (nominal level of measurement); (c) academic achievement (range of grade point average) of the traditional and the non-traditional cooperative education student (nominal level of measurement); and (d) job placement concerns (day or evening placement, geographical location of placement) of the traditional and the non-traditional cooperative education student (nominal level of measurement). Tests were made to identify the differences among the categories of these dependent variables for traditional cooperative education students as compared to non-traditional cooperative education students.

This study was completed through survey research methods. One method of survey research utilized the group administered questionnaire process. The questionnaire was administered to traditional
students and non-traditional students participating in the cooperative education program during the weekly assigned seminar class. The other method of survey research utilized a mailed questionnaire. Students absent from the seminar class were mailed a questionnaire. Following the initial mailing there were two follow-up contacts.

Through the use of the questionnaire, information was gathered that describes the characteristics and the extent of data ranging from factual counts and frequencies to attitudes and perceptions. This information consequently was used to answer questions that have been raised, solve problems that have been posed, and/or describe what exists.

Survey research, although widely used in education, is reactive in nature; that is, it directly involves the respondent in the assessment process by eliciting a response (Isaac and Mitchell, 1985). The risks of the reactive method generating misleading information are: (a) Surveys deal with respondents who are accessible and cooperative, (b) a low response rate can occur when using a mailed questionnaire, and (c) there is no assurance the questions are understood. These risks will be overcome by: (a) utilizing a pilot study to eliminate ambiguous, misunderstood, or biased items in the questionnaire and improve the format of the questionnaire; (b) including a stamped return envelope and follow-up reminders to improve response rate; and (c) a small random sample of non-respondents will be telephoned to assess the differences between the respondents and non-respondents.
The strength of utilizing the group administered and the mailed questionnaire lies in the fact that: (a) It allows the researcher to survey a large number of subjects as well as subjects in diverse locations at minimal cost; (b) it is self-administering; and (c) it can be well designed, simple, and clear.

Population and Sample

Target Population

The results of this study are generalizable to all traditional cooperative education students and non-traditional cooperative education students at Macomb Community College, city of Warren in southeastern Michigan. Although statistical inferences to traditional cooperative education students and non-traditional cooperative education students cannot be made, implications for other students enrolled in similar cooperative education programs outside of Macomb Community College are reasonable.

Accessible Population

For this study, the determination to limit the examination to one cooperative education model at the community college level was made on the basis of research conducted by Mulcahy (1984). In regards to Mulcahy's research, it is suggested to limit the examination to one cooperative education program so that comparisons focus on the individual participants of the program and not the program itself.
Macomb Community College located in the city of Warren in southeastern Michigan is selected for study because its cooperative education program has been recognized as one of the most successful employee development systems in the state of Michigan (Varty, 1986). Macomb Community College enrolls approximately 30,000 students, one-fifth of whom are classified as full-time students and four-fifths of whom are classified as part-time students. The cooperative education program enrolls approximately two percent (2%) of the total population, or 725 students during the school year.

The sample in this study included the total population of all cooperative education students enrolled at Macomb Community College during the fall semester of 1987. From this population, comparison groups were determined with respect to age, gender, marital status (single, married, divorced, separated, widowed), and work experience (prior, none).

Instrumentation

As previously indicated, the primary method of data collection for this investigation was the self-administered, group and mailed questionnaire. The independent variable was student type with two categories, traditional and non-traditional cooperative education students. The questionnaire for this investigation sought to identify the perceived needs of the traditional cooperative education student and the non-traditional cooperative education student as defined by the dependent variables. In addition to completing the perceived
needs portion of the questionnaire, the respondents were asked to provide demographic data that served as secondary independent variables.

**Instrument Construction**

The group and mailed questionnaire was self-administered. The instructions for the completion of the questionnaire were stated in a clear, precise manner to eliminate misunderstandings. Questions were constructed in such a way to eliminate ambiguous and unnecessary items and were as brief as possible. The questionnaire items evolved from issues considered to be pertinent from the literature research. These issues were: (a) primary career objective, (b) desired credential outcome, (c) academic achievement, and (d) job placement concerns.

Questionnaire items addressed each variable and were written to avoid ambiguity and bias. The questions were structured as a checklist. The questions presented a number of possible answers and the respondents were asked to check the most appropriate. The questionnaire was based on the Michigan Student Information System (MiSIS) questionnaire and the Co-op Management Information System (CMIS) questionnaire. MiSIS is a system for the collection of local management information for program and institutional evaluation and improvements. It was produced by the Student Flow Subcommittee of the Michigan Community College Occupational Education Evaluation System, (Michigan Community College Occupational Education System, 1979). CMIS is a system of data collection, storage, and processing that
provides appropriate information to the cooperative education community (educators, students, employers, administrators, and others) in a timely, efficient manner. This system was developed by a team consisting of the cooperative education staff and an information specialist from Macomb Community College located in Warren, Michigan. These data are used to determine if the objectives of an organization have been achieved and assists in decision making (Varty & Thompson, 1981).

Validity

The MiSIS questionnaire, as stated, is a product developed by the Michigan Community College Occupational Education Evaluation System specifically for use by Michigan community colleges and validated by a panel of experts. The CMIS questionnaire was developed by a team consisting of the cooperative education staff and an information specialist from Macomb Community College located in Warren, Michigan. This instrument was validated by a panel of experts and field tested. The instrument was found to be accurate, adequate, understandable, and students experience little or no difficulty completing the questionnaire.

The instrument used in this study was further validated through the utilization of a panel of experts from Macomb Community College. This panel consisted of the Associate Dean for Alternative Education and the cooperative education faculty. The pilot study allowed students enrolled in the cooperative education program to review and evaluate the questionnaire.
Reliability

The pilot study makes it possible to establish the probable re-liability of the instrument. Results from the questionnaires used for the pilot study were retrieved and compared with the measures on the questionnaire used in the investigation. After statistical analysis of the pilot study, the instrument was considered sufficiently reliable if it resulted in an alpha coefficient of .50 This reliability coefficient is acceptable if the measurement results will be used for making a decision about a group or for research purposes (Ary, Jacobs, & Razavieh, 1985).

Pilot Study

The proposed research was pilot tested with 20 cooperative education students. Subjects chosen for the pilot were asked to complete the proposed questionnaire and then make evaluative comments about it. Multiple concerns were considered as the basis for revision on the final form. Appendix A contains a copy of the cover letter used with the pilot subjects and Appendix B contains an example of the pilot study questionnaire form.

The pilot study will serve three main purposes. First, the pilot study provided an opportunity to implement pre-established administrative procedures as a check for misunderstandings, ambiguities, or mechanical difficulties. Second, the pilot study made it possible to help establish the reliability. Third, the pilot study helped to identify the adequacy of the research procedures.
Operational Hypotheses

The research focused on four different hypotheses which were formulated from combinations of dependent and independent variables in accordance with the objectives of the study. The following are operational versions of the research hypotheses listed in this study:

**Hypothesis 1:** There is a difference in the proportion of the primary career objectives of the traditional student versus the non-traditional student participating in the cooperative education program.

**Hypothesis 2:** There is a difference in the proportion of the desired credential outcome for the traditional student versus the non-traditional student participating in the cooperative education program.

**Hypothesis 3:** There is a difference in the proportion of the various ranges of grade point average (GPA) of the traditional student and the non-traditional student participating in the cooperative education program.

**Hypothesis 4:** There is a difference in the proportion of job placement concerns for the traditional student versus the non-traditional student participating in the cooperative education program.

Differences are thought to exist between the needs of the traditional student and the non-traditional student participating in the cooperative education program. In addition to responding directly to the hypotheses of this study, the researcher obtained other demographic information such as: (a) age, (b) gender, (c) marital status, (d) prior work experience, and (e) curricular area. These data
assisted the inclusion of secondary independent variables and presented a more complete profile of the traditional student and the non-traditional student participating in the cooperative education program.

Data Collection

Questionnaires were administered to the traditional student and the non-traditional student participating in the cooperative education program during the scheduled cooperative education seminar classes at Macomb Community College. A list of those traditional and non-traditional students participating in the cooperative education program who were absent from the scheduled seminar classes were obtained and questionnaires with cover letters and stamped return envelopes were sent via mail delivery. A cover letter was included with each questionnaire (see Appendix C). The one page cover letter included:

1. A clear, brief, statement of the purpose and value of the questionnaire.

2. An explanation as to why the respondent was included in the sample and an appeal for the respondent's cooperation.

3. A reasonable return date.

4. An assurance that responses will be held in the strictest confidence.

5. An expression of appreciation for assistance and cooperation with the study.

Three weeks (21 days) after the first mailing of the
A follow-up of nonrespondents began. This follow-up included another cover letter (see Appendix C), another copy of the questionnaire, and a stamped return envelope. The letter reminded the non-respondents that their questionnaires had not been received and restated the usefulness of the study. The enclosure of a replacement questionnaire was emphasized and a strong appeal to complete and return the questionnaire was made.

The final follow-up was sent five weeks (35 days) after the initial mailing to non-respondents. The follow-up included a letter which emphasized the importance of the study and a strong appeal to complete and return the questionnaire. A replacement questionnaire and stamped return envelope was enclosed. After this final follow-up the research was terminated and the remaining subjects were declared non-respondents.

Data obtained from the group administered and the mailed questionnaire (see Appendix D) were processed and analyzed through the use of a computer. Data were translated into numerical codes to meet computer input requirements. The Statistical Package for the Social Sciences (SPSS) was used to compile and analyze the data.

**Null Hypotheses**

The null hypotheses for this investigation are listed as follows:

**Null Hypothesis 1**: There is no difference in the proportion of the primary career objective as defined as to gain experience, to
gain employment, to clarify career goals, to re-train for different employment, to re-enter the work force, and for non-career related reasons of the traditional student versus the non-traditional student participating in the cooperative education program.

**Null Hypothesis 2**: There is no difference in the proportion of the desired credential outcome as defined as a certificate, a two-year associate degree, and transfer to a four year college/university of the traditional student versus the non-traditional student participating in the cooperative education program.

**Null Hypothesis 3**: There is no difference in the proportion of the various ranges of grade point average (GPA) of the traditional student and the non-traditional student participating in the cooperative education program.

**Null Hypothesis 4**: There is no difference in the proportion of job placement concerns as defined by day or evening placement and geographical location of placement of the traditional student versus the non-traditional student participating in the cooperative education program.

**Data Analysis**

In this investigation there was one independent variable, student type, with two categories, traditional and non-traditional cooperative education students. In addition, secondary independent variables (age, gender, marital status, prior work experience) were used to test for other factors of significant influence in
differentiating the benefits accrued thru participation in the cooperative education program. The dependent variables referred to in the hypotheses are: (a) Primary career objective—gain experience, gain employment, clarify career goals, re-train for different employment, re-enter the work force, and non-career related reasons; (b) desired credential outcome—certificate, two-year associate degree, transfer to a four year college/university; (c) academic achievement; and (d) job placement concerns—day or evening placement and geographical location of placement. Each variable was analyzed separately in order to determine the different benefits accrued to the traditional and non-traditional student participating in the cooperative education program.

In the four hypotheses listed the independent variable was the traditional and non-traditional cooperative education student. The dependent variables were primary career objective (Hypothesis 1), desired credential outcome (Hypothesis 2), academic achievement (Hypothesis 3), and job placement concerns (Hypothesis 4). The hypotheses was addressed by examining the data utilizing a non-parametric inferential statistical method. Data were nominal and differences were sought on the frequency of choice by the traditional and the non-traditional cooperative education student between categorical variables.

Differences among the proportions in each hypothesis were compared using the chi-square procedure and proportion test. In each hypothesis the independent variables were student type, traditional
and non-traditional students participating in the cooperative education program. In Hypothesis 1, data were arranged in a 2 x 5 table with the dependent variables being the career objective (to gain experience, to gain employment, to clarify career goals, to re-train for different employment, to re-enter the work force, and non-career related reasons). In Hypothesis 2, data were arranged in a 2 x 2 table with the dependent variables being the desired credential outcome (short-term—certificate, two-year associate degree, and long-term—transfer to a four year college/university. In Hypothesis 3, data were arranged in a 2 x 3 table with the dependent variables being the range of grade point average (4.00 - 3.60, 3.59 - 3.00, 2.99 - 2.00). In Hypothesis 4, the data were arranged in a 2 x 2 table with regards to the time of the job placement (traditional time—day and non-traditional time—evening) and a 2 x 2 table with regards to the geographical location (accommodating or not accommodating to the student). The alpha level was established at .05 for committing a type I error in each of the four hypotheses.

The secondary independent variables of age, gender, marital status, and prior full-time work experience were used to test for other factors of significant influence in differentiating the benefits accrued by the traditional and non-traditional student participating in the cooperative education program. The data from these secondary independent variables assisted in developing the complete profile of the traditional and non-traditional student participating in the cooperative education program.
Chapter Summary

This chapter relates the methodology used in the investigation of the traditional and non-traditional cooperative education student with respect to the dimensions of the cooperative education model. The sample was selected from all cooperative education students enrolled at Macomb Community College located in Warren in southeastern Michigan during the fall semester of 1987.

The study is based upon data collected through a group administered questionnaire and a mailed questionnaire. The instrument was tested for validity and reliability through the use of a panel of experts, pilot study, and source instruments.

The chi-square (non-parametric) procedure and proportion test was used to determine if differences exist between traditional and non-traditional cooperative education students with respect to the dimensions of the cooperative education model. Other demographic data were obtained in this investigation for a complete profile of the cooperative education student.

Chapter IV presents the results of the statistical tests, giving insight to the differences of the traditional and non-traditional cooperative education student with respect to the dimensions of the cooperative education model. The results of the statistical tests contributed to the conclusions and recommendations in Chapter V.
CHAPTER IV
FINDINGS OF THE STUDY

Introduction

The purpose of this chapter is to report the findings of the analyses which were accomplished in order to address the four hypotheses of this study. The major objective of the study was to investigate the differences between the traditional and non-traditional cooperative education students with respect to benefits received from the various dimensions of the cooperative education model.

Demographic characteristics of the respondents are described in the first section of this chapter. These characteristics include gender, age, marital status, and prior work experience. Analyses of the data are presented in the second section with reference to the research questions. Finally, the tests of the hypotheses and interpretation of the tests are described.

Characteristics of the Sample

The research population for this investigation consisted of all students enrolled in the Cooperative Education Program at Macomb Community College located in Warren, Michigan during the fall semester of 1987. This included 192 potential respondents.

Questionnaires were either distributed to students during cooperative education seminars held on campus at Macomb Community College or mailed to any students who were absent during the seminar session.
Each student received a letter of introduction, a questionnaire, and a pre-addressed and stamped envelope. The questionnaires were designed to be self-administered and returned by mail.

Response rates to the questionnaire are summarized in Table 4. A total of 171 students, or 89% of the population, responded to the survey. Of these, as can be seen in Table 5, 117 or 68.4% were traditional students and 54 or 31.6% were non-traditional students. The distinction between traditional and non-traditional cooperative education students was made on the basis of whether the students had a year or more break in their education.

Table 4
Survey Response Rates

<table>
<thead>
<tr>
<th>Potential Respondents</th>
<th>Number of Completed Questionnaires</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Enrolled in Cooperative Education Fall 1987</td>
<td>192</td>
<td>171</td>
</tr>
</tbody>
</table>

Table 5
Type of Cooperative Education Students

<table>
<thead>
<tr>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Student</td>
<td>117</td>
</tr>
<tr>
<td>Non-Traditional Student</td>
<td>54</td>
</tr>
<tr>
<td>Total</td>
<td>171</td>
</tr>
</tbody>
</table>

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Traditional and Non-Traditional Cooperative Education Students

Respondents (traditional and non-traditional cooperative education students) were asked to indicate their gender. The questionnaires were analyzed to determine the percent of traditional and non-traditional cooperative education students who were male or female (see Table 6). One student did not identify his or her gender on this study; thus, only one-hundred and seventy (170) questionnaires were analyzed regarding gender.

Table 6
Distribution of Respondents Regarding Gender and Type of Student

<table>
<thead>
<tr>
<th></th>
<th>Traditional Cooperative Education Students</th>
<th>Non-Traditional Cooperative Education Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>52.6%</td>
<td>34</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>47.4%</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

Marital Status

The marital status of the traditional cooperative education student and the non-traditional cooperative education student was also obtained. Students were asked to indicate whether they were single, married, divorced, separated, or widowed. The students responded

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only to single, married, or divorced. One respondent did not indicate marital status, thus 170 questionnaires were analyzed. These data are shown in Table 7.

Table 7
Distribution of Respondents Regarding Marital Status and Type of Student

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Traditional Students</th>
<th>Non-Traditional Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Single</td>
<td>102</td>
<td>87.9%</td>
<td>38</td>
</tr>
<tr>
<td>Married</td>
<td>11</td>
<td>9.5</td>
<td>10</td>
</tr>
<tr>
<td>Divorced</td>
<td>3</td>
<td>2.6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

Age of Respondent

The ages of the respondents were summarized by computing the means and medians for both male and female traditional and non-traditional student respondent groups. The mean age of the traditional male cooperative education student was 21.5 years with a median of 21 years; whereas, the mean age of the traditional female cooperative education student was 22.8 years with a median age of 21 years. The mean age of the non-traditional male cooperative education students was 25.3 years with a median age of 24 years and the mean age of the
non-traditional female cooperative education students was 27.3 years
years with a median age of 27 years. In comparing the male and the
female non-traditional cooperative education students, the non-tradi-
tional female cooperative education students were, on the average,
older than their male counterparts. These data are summarized in
Table 8.

Table 8
Age of Respondents by
Student Type and Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean Age</td>
<td>Median Age</td>
</tr>
<tr>
<td>Male</td>
<td>61</td>
<td>21.5</td>
<td>21.0</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>22.8</td>
<td>21.0</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>22.1</td>
<td>21.0</td>
</tr>
</tbody>
</table>

Prior and No Prior Work Experience

The students were also asked to indicate whether they had any
work experience prior to entering the cooperative education program.
If students indicated that they had worked before enrolling in the
cooperative education program, they were considered to have prior
work experience. The present study was concerned with those indi-
viduals who experienced some history of employment before enrolling
in the cooperative education program. Table 9, which presents a
summary of the respondents' answers to the question, indicates that
57.4% of the traditional cooperative education students and 79.6% of
the non-traditional cooperative education students had some prior
work experience.

Table 9

Prior Work Experience
of Respondents

<table>
<thead>
<tr>
<th>Work Experience</th>
<th>Traditional</th>
<th>Non-Traditional</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Prior</td>
<td>66</td>
<td>57.4%</td>
<td>43</td>
</tr>
<tr>
<td>No Prior</td>
<td>49</td>
<td>42.6%</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

Summary—Traditional/Non-Traditional Cooperative Education Student

The four previous tables (Tables 6-9) provide a composite pro-
file of cooperative education students. Traditional cooperative ed-
ucation students are fairly evenly split between men and women. For
the non-traditional group, however, only about one-third are women.
Also, the majority of traditional cooperative education students in-
dicated their marital status as single; whereas, 29.6% of the non-
traditional cooperative education students indicated their marital
status as married or divorced, only 12.1% of the traditional
cooperative education students indicated their marital status as married or divorced. The mean age of the traditional cooperative education student was 22.1 years, while the mean age of the non-traditional cooperative education student was 26.0 years. Thus, the traditional cooperative education students were younger than the non-traditional cooperative education students. With regards to the respondents prior work experience, the majority of traditional cooperative education students and non-traditional cooperative education students had prior work experience. Although the percentage of the non-traditional cooperative education students (79.6%) who had prior work experience was greater than the percentage of the traditional cooperative education students (57.4%). Thus, the non-traditional cooperative education student, in this study, tends to be more often married or divorced, older, and has had prior work experience.

Reactions to the Cooperative Education Program

Respondents were asked to indicate which statement (very satisfied, satisfied, average, disappointed, very disappointed) best described their feeling about participating in the cooperative education program at Macomb Community College located in Warren, Michigan. The reactions of respondents to participating in the cooperative education program are summarized in Table 10. The vast majority of cooperative education students, 155 or 89.5% of the respondents, indicated that they were either very satisfied or satisfied with their program. Specifically, as can be seen in
Table 10, 45.6% indicated that they were very satisfied, 43.9% indicated that they were satisfied and only 18 or 10.5% indicated a less than satisfactory response. Also, as can be seen in Table 10, the traditional and non-traditional cooperative education students were quite similar.

<table>
<thead>
<tr>
<th>Reaction</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Very Satisfied</td>
<td>52</td>
<td>44.4%</td>
<td>26</td>
</tr>
<tr>
<td>Satisfied</td>
<td>53</td>
<td>45.3%</td>
<td>22</td>
</tr>
<tr>
<td>Average</td>
<td>9</td>
<td>7.7%</td>
<td>4</td>
</tr>
<tr>
<td>Disappointed</td>
<td>2</td>
<td>1.7%</td>
<td>2</td>
</tr>
<tr>
<td>Very Disappointed</td>
<td>1</td>
<td>.9%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>
Current Status of the Cooperative Education Assignment

Table 11 summarizes the respondents answers to a question which asked them to indicate their current cooperative education assignment. Full-time status in cooperative education is considered to be anything above 35 hours per week for the semester. Part-time status involves a minimum of 15 hours per week. The majority of both traditional and non-traditional cooperative education students, as can be seen in Table 11, had full-time status.

Table 11

<table>
<thead>
<tr>
<th>Current Status</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N   %</td>
<td>N   %</td>
<td>N    %</td>
</tr>
<tr>
<td>Full-Time</td>
<td>100 85.5%</td>
<td>43 79.6%</td>
<td>143 83.6%</td>
</tr>
<tr>
<td>Part-Time</td>
<td>17 14.5%</td>
<td>11 20.4%</td>
<td>28 16.4%</td>
</tr>
<tr>
<td>Total</td>
<td>117 100.0%</td>
<td>54 100.0%</td>
<td>171 100.0%</td>
</tr>
</tbody>
</table>
**Result of the Cooperative Education Experience**

The cooperative education program is viewed as an alternative learning program that provides skills for successful employment. When asked what the result of their cooperative education experience was, the most frequent answer by both the traditional and non-traditional cooperative education students was that the cooperative education experience resulted in providing the necessary skills for employment. Respondents could indicate more than one choice in this question; thus, the total number of responses are greater than the number of returned questionnaires. These data are summarized in Table 12.

<table>
<thead>
<tr>
<th>Result</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided Skills for Employment</td>
<td>75 (64.7%)</td>
<td>34 (63.0%)</td>
<td>109 (64.1%)</td>
</tr>
<tr>
<td>Improved Ability to Communicate</td>
<td>26 (21.6%)</td>
<td>9 (16.7%)</td>
<td>35 (20.0%)</td>
</tr>
<tr>
<td>Increased Confidence</td>
<td>32 (22.6%)</td>
<td>18 (33.3%)</td>
<td>50 (29.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>11 (9.5%)</td>
<td>10 (18.5%)</td>
<td>21 (12.4%)</td>
</tr>
</tbody>
</table>

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Enrollment Status

Respondents also indicated their current enrollment status. Enrollment status is determined by the number of credit hours of course work in which students are enrolled during the semester. The student enrolled in 12 hours or more credit hours of course work is considered a full-time student; while, a part-time student is defined as one who is enrolled in less than 12 credit hours of course work. Table 13 indicates that the enrollment status of the traditional and non-traditional cooperative education student appears to be very similar.

Table 13

<table>
<thead>
<tr>
<th>Enrollment Status</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Full-Time (12 Hrs. or More)</td>
<td>42</td>
<td>36.2%</td>
<td>19</td>
</tr>
<tr>
<td>Part-Time (Less than 12 Hrs.)</td>
<td>74</td>
<td>63.8%</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

Curricular Area

Finally, the respondents were asked to indicate what their particular curriculum area was. Only four curricular areas were indi-
Cated by the cooperative education students in this study, namely industrial technology, business, applied technology, and general/liberal arts education. Cross tabulations of curricular areas by student type are presented in Table 14. The primary curricular area for the traditional and non-traditional cooperative education student, as can be seen in Table 14, is industrial technology.

Table 14
Curricular Area of Respondent by Student Type

<table>
<thead>
<tr>
<th>Curricular Area</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>73</td>
<td>63.5%</td>
<td>31</td>
</tr>
<tr>
<td>Business</td>
<td>33</td>
<td>28.7%</td>
<td>17</td>
</tr>
<tr>
<td>Applied Technology</td>
<td>6</td>
<td>5.2%</td>
<td>4</td>
</tr>
<tr>
<td>General/Liberal Arts Education</td>
<td>3</td>
<td>2.6%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100.0%</td>
<td>52</td>
</tr>
</tbody>
</table>

Test of Hypotheses

Four null hypotheses are presented in this study regarding differences between the traditional and the non-traditional cooperative education student. The analysis for each hypothesis compares the differences in percentages of the two student types (traditional and
null-traditional) participating in the cooperative education program.
The following section reports the results of the statistical tests of
these hypotheses.

Null Hypothesis 1—Primary Career Objective

Null Hypothesis 1 states: There is no difference in the propor-
tion of the primary career objective as defined as to gain experi-
ence, to gain employment, to clarify career goals, to re-train for
different employment, or for non-career related reasons of the
traditional student and the non-traditional student participating in
the cooperative education program. The .05 alpha level is used as a
basis for rejecting or failing to reject the null hypothesis.

In order to determine whether any differences exist between the
traditional and non-traditional cooperative education students on
these variables, a chi-square ($\chi^2$) test of independence was computed
based on data found in the questionnaires. The chi-square ($\chi^2$) test
of independence results in a $\chi^2$ value of 12.35 with 4 degrees of
freedom and a probability of .015. The null hypothesis is rejected
at the .05 alpha level and the alternate hypothesis was accepted.
The results of this procedure are presented in Table 15.

For the purpose of identifying the specific locus of the dif-
ference proportion tests were calculated on all levels. The only
difference observed was between the numbers of traditional and non-
traditional cooperative education students who selected to re-train
for different employment as the primary objective for participating
in the cooperative education program. In that case, one or 0.9% of
the traditional students selected the objective, while seven or 13% of the non-traditional students selected re-training as one of their primary objectives. These proportions were found to be significantly different at the .05 alpha level.

Table 15

Chi-Square Test of Independence for Primary Objective in Cooperative Education Participation by Student Type

<table>
<thead>
<tr>
<th>Primary Objective</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Gain Experience</td>
<td>75</td>
<td>65.2%</td>
<td>31</td>
</tr>
<tr>
<td>Gain Employment</td>
<td>17</td>
<td>14.8%</td>
<td>6</td>
</tr>
<tr>
<td>Clarify Career Goals</td>
<td>11</td>
<td>9.6%</td>
<td>4</td>
</tr>
<tr>
<td>Re-train For Different Employment</td>
<td>1</td>
<td>0.9%</td>
<td>7</td>
</tr>
<tr>
<td>Non-Career Related</td>
<td>11</td>
<td>9.6%</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>68.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 12.35 \]
\[ df = 4 \]
\[ p = 0.015^* \]

NOTE: A .05 probability for committing a Type I error was used.

*p < .05

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Null Hypothesis 2—Desired Credential Outcome

Null Hypothesis 2 states: There is no difference in the proportion of the desired credential outcomes as defined as short-term outcome (certificate, two-year associate degree), and long-term outcome (transfer to a four-year college/university) of the traditional student versus the non-traditional student participating in the cooperative education program. The .05 alpha level is used as a basis for rejecting or failing to reject the null hypothesis.

In order to determine whether any differences exist between the traditional and the non-traditional cooperative education student on these variables, a chi-square ($\chi^2$) test of independence was computed based on data found in the questionnaires. The chi-square ($\chi^2$) test of independence results in a $\chi^2$ value of .563 with 1 degree of freedom and a probability of .453. The probability of .453 determines that the null hypothesis is not rejected at the .05 alpha level. There is no support to show a difference between traditional and non-traditional cooperative education students in their desired credential outcome for participating in the cooperative education program; therefore, the alternate hypothesis is not accepted. The results of this procedure are shown in Table 16.
Table 16
Chi-Square Test of Independence for Desired Credential Outcome by Student Type

<table>
<thead>
<tr>
<th>Desired Outcome</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Short-term</td>
<td>82</td>
<td>70.1%</td>
<td>34</td>
</tr>
<tr>
<td>Long-term</td>
<td>35</td>
<td>29.9%</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 0.563 \]
\[ df = 1 \]
\[ p = 0.453* \]

NOTE: A .05 probability for committing a Type I error was used.

*p > .05

Null Hypothesis 3—Grade Point Average

Null Hypothesis 3 states: There is no difference in the proportion of the various ranges of grade point average (GPA) of the traditional student and the non-traditional student participating in the cooperative education program. The .05 alpha level is used as a basis for rejecting or failing to reject the null hypothesis.

In order to determine whether any differences exist between the traditional and the non-traditional cooperative education student on these variables, a chi-square \( (\chi^2) \) test of independence was computed based on data found in the questionnaires. The chi-square \( (\chi^2) \) test
of independence results in a $X^2$ value of .594 with 2 degrees of freedom and a probability of .743. The probability of .743 determines that the null hypothesis is not rejected at the .05 alpha level.

There is no support to show a difference between traditional and non-traditional cooperative education students in their range of grade point average; therefore, the alternate hypothesis is not accepted. The results of this procedure are presented in Table 17.

Table 17

Chi-Square Test of Independence for Range of Grade Point Average by Student Type

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>4.00-3.60</td>
<td>33</td>
<td>28.5%</td>
<td>18</td>
</tr>
<tr>
<td>3.59-3.00</td>
<td>63</td>
<td>54.3%</td>
<td>26</td>
</tr>
<tr>
<td>2.99-2.00</td>
<td>20</td>
<td>17.2%</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

$X^2 = 0.594$
$df = 2$
$p = 0.743*$

NOTE: A .05 probability for committing a Type I error was used.
*p > .05
Null Hypothesis 4—Job Placement Concerns

Null Hypothesis 4 states: There is no difference in the proportion of job placement concerns as defined by traditional time (days) and non-traditional times (evenings) of the job placement and geographical location of placement of the traditional student versus the non-traditional student participating in the cooperative education program.

In order to determine whether any differences exist between the traditional and non-traditional cooperative education student regarding the time availability (day or evening) of the job placement, a chi-square ($X^2$) test of independence was computed based on data found in the questionnaires. The chi-square ($X^2$) test of independence results in a $X^2$ value of 1.011 with 1 degree of freedom and a probability of .315. The probability of .315 determines that the null hypothesis is not rejected at the .05 alpha level. There is no support to show a difference between traditional and non-traditional cooperative education students regarding the time availability (day or evening) of the job placement; therefore, the alternate hypothesis is not accepted. The results of this procedure are shown in Table 18.
Table 18
Chi-Square Test of Independence for Time
Availability of Job Placement by Student Type

<table>
<thead>
<tr>
<th>Time Availability</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Traditional Time</td>
<td>86</td>
<td>75.5%</td>
<td>36</td>
</tr>
<tr>
<td>Non-traditional Time</td>
<td>28</td>
<td>24.6%</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>114</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.011 \]
\[ df = 1 \]
\[ p = 0.315^* \]

NOTE: A .05 probability for committing a Type I error was used.

*p > .05

For the purpose of determining whether any differences exist between the traditional and the non-traditional cooperative education students regarding the geographical location of the job placement a \( \chi^2 \) test of independence was computed based on data found in the questionnaires. The \( \chi^2 \) test of independence results in a value of 9.96 with 1 degree of freedom and a probability of .002. The probability of .002 determines that the null hypothesis is rejected at the .05 alpha level and the alternate hypothesis was accepted. The results of this procedure are presented in Table 19.
### Table 19

Chi-Square Test of Independence for Convenience of the Geographical Location of the Job Placement Assignment

<table>
<thead>
<tr>
<th>Convenient Location</th>
<th>Traditional Student</th>
<th>Non-Traditional Student</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Yes</td>
<td>86</td>
<td>74.8%</td>
<td>52</td>
</tr>
<tr>
<td>No</td>
<td>29</td>
<td>25.2%</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>100.0%</td>
<td>54</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 9.96 \]
\[ df = 1 \]
\[ p = 0.002^* \]

**NOTE:** A .05 probability for committing a Type I error was used.

\(^*p < .05\)

**Chapter Summary**

The first section of this chapter presented demographic characteristics of the respondents who participated in this investigation. The second section reported the statistical analysis of the results with reference to each of the four null hypotheses. The results of the analysis procedure stated in this chapter compared traditional cooperative education students with non-traditional cooperative education students regarding the primary objective for participation in the cooperative education program, the desired credential outcome for participating in cooperative education, range of grade point average, range of grade point average,
and job placement concerns (time availability and geographical location).

The null hypothesis relating to traditional and non-traditional cooperative education students with regards to the primary objective for participating in the cooperative education program was not supported by the data analysis. The alternate hypothesis was accepted. The null hypothesis comparing the traditional and non-traditional cooperative education students with regards to their desired credential outcome was supported by the data analysis and the null hypothesis was not rejected. The null hypothesis comparing the traditional and non-traditional cooperative education students with regards to their grade point average was supported by the data analysis and the null hypothesis was not rejected. The null hypothesis comparing traditional and non-traditional cooperative education students with regards to time availability was supported by the data analysis and the null hypothesis was not rejected. However, in comparing the traditional and non-traditional cooperative education student with regards to convenient geographical location, the null hypothesis was rejected and the alternate hypothesis was accepted.

Chapter V provides a summary of the investigation in addition to conclusions, implications, and recommendations. Discussion of the conclusions and recommendations for future research concerning cooperative education students are also proposed.
CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

Introduction

This chapter is a summary of the investigation of differences between traditional and non-traditional students with regards to participation in the cooperative education program. The research method, findings of the study, and interpretation of the findings will be summarized. Also, implications of the findings and recommendations for further research derived from the present study will be discussed.

Conclusions and Implications

Conclusions and implications can be drawn from the results of this study relative to the review of literature in Chapter II. These conclusions which were attained as a result of the investigation of the data are given in the major categories expressed through the research hypotheses.

Traditional/Non-Traditional Student

The traditional cooperative education student is defined as that student who had no significant break in their education (less than one year) while the non-traditional cooperative education student is that student with a significant break in their education (one year or more). Through the research data, a composite profile of cooperative
education students (traditional and non-traditional) was established with regards to age, gender, marital status, and prior work experience.

This study showed that 117 or 68.4% of the traditional cooperative education students participating in the cooperative education program at Macomb Community College were considered traditional cooperative education students; whereas, 54 or 31.6% were considered non-traditional cooperative education students.

The majority of the traditional and non-traditional cooperative education students are single, but a greater percentage (29.6%) of the non-traditional cooperative education students indicated their marital status as married or divorced than among the traditional cooperative education students (12.1%). Also, the age of the respondents indicated that non-traditional cooperative education students were older (mean age 26 years and median age 25 years) than the traditional cooperative education student (mean age 22.1 years and median age 21 years). Although a majority of both traditional and non-traditional cooperative education students has had prior work experience, a greater percentage (79.6%) of the non-traditional cooperative education students indicated prior work experience when compared to the percentage (57.4%) of traditional cooperative education students. These demographic data support the review of literature regarding the heterogeneity of the non-traditional cooperative education students and the various factors which differentiate the traditional and non-traditional student.
The composite profile established by the research data depicts the traditional cooperative education student as fairly evenly split between men and women. For the non-traditional group, however, only about one-third are women. Also, the majority of traditional cooperative education students (87.9%) indicated their marital status as single; whereas, there were a greater number of non-traditional cooperative education students who indicated their marital status as married or divorced (approximately one-third) when compared to the traditional cooperative education students (approximately one-eighth). The traditional male and female cooperative education students' mean age was 22.1 years and the median age was 21 years, while the non-traditional cooperative education students' mean age was 26 years and the median age was 25 years. Also, the non-traditional female cooperative education students, on the average, were older (mean age 27.3 years and median age 27 years) than their male counterparts (mean age 25.3 years and median age 24 years). With regards to the respondents' prior work experience, 79.6% of the non-traditional cooperative education students had prior work experience compared to 57.4% of the traditional cooperative education students who had prior work experience. Thus, the non-traditional cooperative education student, in this study, tends to be married or divorced, older, and has had prior work experience, while the traditional cooperative education student tends to be single, younger, and also has had prior work experience but at a lower percentage than the non-traditional cooperative education student.
Primary Career Objective

The primary career objective is one area of focus regarding total career preparation. The area of primary career objective indicated a difference between the traditional and non-traditional cooperative education student, based on the chi-square of 13.11 with a probability of .041. The difference observed was between the traditional and non-traditional cooperative education students who selected to re-train for different employment. This observation indicates that the adult learner will need re-training and re-education and that the cooperative education program will need to consider the concerns of the worker throughout their life span and be perceptive to the individual's career needs.

The cooperative education program which has previously focused on the traditional student who enrolls in the cooperative education program directly from high school with little or no prior work experience will need to be re-examined. Cooperative education programs have been seen as a single educational strategy separate from other educational strategies. In order to meet the needs of the changing student and workforce, the cooperative education program will need to expand to integrate with other educational strategies, such as credit for work and life experiences and career guidance. Also, cooperative education will need to work closer with other educational departments within the institution and with business and industrial institutions. Thus, cooperative education will need to consider the special needs
of the non-traditional student and address the interface between the individual, the employer, and the individual's surroundings.

**Desired Credential Outcome**

The desired credential outcome (certificate, two-year associate degree, transfer to a four year college/university) of the traditional and non-traditional cooperative education student was the second area of total career preparation examined by this investigation. The research hypothesis presumed a difference in the desired credentials of the traditional and non-traditional cooperative education student. Although much of the literature supported the changing profile of the American labor market and the apparent need for cooperative education to expand its purposes in order to accommodate the needs of an increasingly heterogeneous workforce, no differences were found as to the desired credential outcome of the traditional and non-traditional cooperative education student.

The data, however, indicated that the majority (67.8%) of traditional and non-traditional cooperative education students have set short-term goals (certificate, two-year associate degree) with regards to their desired credential outcome. The data shows that approximately two thirds of the cooperative education students desire a certificate or a two-year associate degree; while one third want to transfer to a four year college/university to continue their studies.

This implies that it may not be necessary for the directors of cooperative education programs to focus on differences in the desired
credential outcome of the individual, but rather to concentrate on the students' primary objective. This is also supported by previous research by Evans and Herr (1978) that the primary goal of cooperative education is to prepare the student for gainful employment.

**Academic Achievement**

Work experience through research has been shown to be closely related to academic achievement. Previous research indicates that cooperative education students had a higher grade point average and showed a higher correlation between hours worked and grade point average (McNutt & Herman, 1974; Good, Culbert, & Lachenmeyer, 1986). The implications are that employed students are more likely to be successful students.

This study supports the high academic achievement of cooperative education students. Eighty-two percent (82%) of the respondents had a grade point average of 3.00 to 4.00 on a scale of 4.00, fifty-two percent (52%) of these were between 3.00 and 3.59; while, thirty percent (30%) were between 3.60 and 4.00. The implications of these conclusions are that both traditional and non-traditional students do well academically in the cooperative education program and that cooperative education is a valid educational alternative and contributes positively to the development of competence and academic achievement of the cooperative education student.
Job Placement Concerns

Job placement concerns focused on two areas: (1) the time availability of the job placement (day or evening); and (2) the convenience of the geographical location of the job placement assignment.

The assumed disadvantage of the time availability of the job placement with regards to the non-traditional student presumed that a greater number of non-traditional cooperative education students compared to traditional cooperative education students would be married or divorced. Thus, the non-traditional cooperative education students would have increased family commitments and full-time employment commitments. This implies that a difference would be observed regarding the concerns of time availability of the job placement by the traditional and non-traditional cooperative education student, but this was not supported by the various data analyzed.

Studies by researchers such as Billings (1970), implies that problems have occurred because of outlying geographical location of the job placement assignment of students participating in the cooperative education program. Evidence regarding concerns of geographical location of the job placement support the previous research and shows that a difference does exist between traditional and non-traditional cooperative education students regarding the concern of the geographical location of the job placement assignment. Various factors contribute to this support: (a) The scheduling of
academic classes and the job placement, (b) the geographical location reduces the classroom time, and (c) the geographical location reduces the student's ability to participate fully in college (on-campus) life by eliminating student activities (Koos, Portman cited in Heerman, 1973, p. 45). The cooperative education program will need to become more flexible and respond to external factors. Variations in the cooperative education methods (alternating, parallel, extended day, field) and credentializing the work experience are strategies which cooperative education programs may adopt to address this concern.

Recommendations

Three recommendations can be derived from the results of this study. One recommendation is the need for awareness with regards to the ambiguity of defining the non-traditional student and the number of factors which may determine a non-traditional student. The second recommendation is the various cooperative education methods (alternating, parallel, field, extended day) which have an impact on the type of cooperative education programs an institution may have and the inconsistencies that may result due to these various methods regarding studies on cooperative education. Thirdly, the awareness that cooperative education is three-sided, the institution, the employer, the cooperative education student, and each participant shares equally in the development and progress of the cooperative education program.
The difficulty in establishing a profile of a typical non-traditional student must be recognized. The traditional and the non-traditional student can be differentiated on the basis of age, full-or part-time enrollment, gender, marital status, a break in education, and prior full-time work experience, but it is not clear that any one factor determines a traditional or non-traditional student. Thus, based on the results of this study using various factors to identify the non-traditional student may effect validity. Due to the ambiguities in defining the non-traditional cooperative education student, it is recommended that the non-traditional student be defined as one who has had a year or more break in their education.

The offering of one cooperative education method will need to be re-examined to include various cooperative education program methods (alternating, parallel, extended day, field). These various methods offered by the institution will help to accommodate the changing student, the changing workforce, and the industrial needs.

The cooperative education program is three-sided (the institution, the employer, the student). Each participant shares equally in the development and progress of the cooperative education program. The successful cooperative education program will need to recognize this fact and strive to bridge the educational institution and various departments within the institution with the needs of industry. Cooperative education can help the institution understand the changes which are occurring and define the training strategies best suited to the industrial surroundings.
Recommandations For Further Research

As with any research, knowledge gained from the present study identified additional questions which should be investigated. The present study identified the career needs of the individual. Further study may be helpful as to the relationship between the employers' needs and the students' needs. This will give a broader perspective for the establishment of a stronger partnership between educational strategies and industry.

This study analyzed one method of cooperative education, the alternate method. Investigations identifying more than one cooperative education program method (alternate, parallel, extended day, field) should be conducted and each method analyzed individually and the results compared. Researching and comparing the other cooperative education methods and establishing any differences which may exist will help to identify the methods which will best suited for the changes which will occur in the student, the workforce, and the workplace.

The function of cooperative education is compared to an equilateral triangle (Thomas, 1969) since all the participants involved have equivalent interests, obligations, and responsibilities. The participants in the cooperative relationship are the institution, the employer, and the cooperative education student. This study addressed the inter-relationship of the institution and the student and increased the awareness of the problems that exist. Further research
is recommended to include all the facets of the cooperative education program.

Summary of the Study

The cooperative education program has been recognized as an alternative to learning, bringing together the student, educational background, and occupational opportunity. Through the National Commission of Cooperative Education (NCCE), a steady growth of cooperative education programs in institutions have been recorded in the past twenty years. The model for cooperative education programs is one which was designed for the traditional student.

Cooperative education is an important means in achieving the conjecture that education should be more relevant to work. The need to equip the individual to change must be provided by the educational institution and as our society changes, so will our skills and knowledge need to change. The program involves a cooperative and collaborative relationship between the institution, the employer, and the student.

This study investigated the differences of the traditional cooperative education student and the non-traditional cooperative education student with respect to benefits received from the various dimensions of the cooperative education model at Macomb Community College located in Warren in southeastern Michigan. The sample in this study included the total population of all cooperative education students enrolled at the college during the fall of 1987. From this
population comparison groups were determined with respect to a break in education, age, gender, marital status, and prior full-time work experience.

Data were gathered through the use of a self-administered questionnaire. The questionnaire was distributed to students participating in the cooperative education assigned seminar classes. Cooperative education students absent during the seminar class were mailed a questionnaire. Of the 192 cooperative education students enrolled, 171 questionnaires were returned.

The results of the data analysis were mixed. Differences between traditional and non-traditional cooperative education students were not supported by the analyses of the desired credential outcome, grade point average, and the time availability of the job placement assignment. The primary objective for cooperative education participation and the convenience of the geographical location of the job placement assignment showed a difference between the traditional and the non-traditional cooperative education student. The secondary variables of age, gender, marital status, and prior work experience when analyzed with regards to the same factors (primary career objective, desired credential outcome, grade point average, job placement concerns) consistently showed no differences.

This investigation examined the traditional and the non-traditional student participating in the cooperative education program as to differences that might exist. Even though the data analyses were incongruous, the various aspects which influence the distinction
between traditional and non-traditional students, the diversity in the cooperative education methods, and the cooperative relationship between the institution, the employer, and the student has increased the awareness of the complexity in the inter-relationships of the cooperative education program. With the uncertainty of enrollment patterns in institutions, the changing employment market, and the changing population, cooperative education will play an important role in the world of the future. Through this investigation, it is hoped that further studies will be initiated and will provide recommendations for strategies in developing alternatives within the cooperative education program which will better serve the future population in the inter-relationship of academic and work experience critical to their development.
November, 1987

Dear:

I am in the process of pilot testing the research instrument to be used in conjunction with my doctoral dissertation at Western Michigan University. It is my hope that you are willing to help in this process by completing the enclosed questionnaire.

The shift in employment patterns from an industrial society to a knowledge and information based society means that many of the existing types of jobs will disappear. With the change in the demands of the work force, it is evident that an increasing number of workers will need to link work with learning. The inter-relationship between education and work provided by cooperative education may be the best approach to achieve this link. The purpose of this study is to investigate the differences of the traditional cooperative education student and the non-traditional cooperative education student with respect to the benefits perceived from the various dimensions of the Macomb Community College cooperative education program.

Your cooperation and participation in this study is appreciated. I can assure you that all questionnaire responses will be held in the strictest confidence. The code number you may notice on the questionnaire will be used only to determine those who have not responded after a period of time so that follow-up mailings to encourage response need not be sent to the entire group.

Your responses are very important! Please take the time to complete the questionnaire and return it today.

I thank you in advance for your valuable assistance and prompt reply.

Sincerely,

Beatrice C. Ullrich
Western Michigan University
Doctoral Student
APPENDIX B

Pilot Survey
Please respond to the following statements regarding your enrollment at MCC and participation in the cooperative education program.

1. COOPERATIVE TRAINING INFORMATION (Check the appropriate choice.)

What was your primary objective in participating in the cooperative education program? (Check one)

- Improvement of existing skills
- Preparation for job to be obtained
- Personal interest
- Other

What is your desired degree outcome at MCC? (Check one)

- Certificate program
- Two-year associate degree
- University transfer credit
- Other

Which statement best describes your feeling about your participation in the cooperative education program at MCC? (Check most appropriate)

- Very satisfied
- Satisfied
- Average
- Disappointed
- Very disappointed

Before enrolling in MCC's cooperative education program did you have (Check one)

- Prior full-time paid work experience
- No prior full-time paid work experience

Was your cooperative education job placement available (Check one)

- Only during the day
- Only during the evening
- Both day and evening

Was the geographical location of your cooperative education job placement convenient for participation in the cooperative education program? (Check one)

- Yes
- No

Are you enrolled in the cooperative education program as a (Check one)

- Parallel student
- Alternate student

Are you currently enrolled in the cooperative education program (Check one)

- Full-time
- Part-time

Did you have a break in your education? (Check one)

- Yes
- No

If YES to the above, what was the length of break in your education?

______ Number of months
______ Number of years
Are you currently enrolled at MCC (Check one)

- [ ] Full-time (12 hours or more)
- [ ] Part-time (Less than 12 hours)

What would be the range of your grade point average? (Check the most appropriate)

- [ ] 4.00 - 3.60
- [ ] 3.59 - 3.00
- [ ] 2.99 - 2.60
- [ ] 2.59 - 2.00

What is your age? ______

What would make the cooperative education program more beneficial to you? (Explain)

II DEMOGRAPHIC INFORMATION

Sex: [ ] Male
[ ] Female

Marital Status: [ ] Married
[ ] Single
[ ] Divorced
[ ] Separated
[ ] Widowed

THANK YOU FOR COMPLETING THIS SURVEY
APPENDIX C

Cover and Follow-up Letters
November, 1987

Dear:

I am conducting a research project to determine the benefits obtained by students enrolled in a cooperative education program. As a student enrolled in the cooperative education program at Macomb Community College your responses to the items on the enclosed questionnaire will be helpful in determining the aspects of the cooperative education program which are beneficial to the student.

The shift in employment patterns from an industrial society to a knowledge and information based society means that many existing types of jobs will disappear. With the change in the demands of the work force, it is evident that an increasing number of workers will need to link work with learning. The inter-relationship between education and work provided by cooperative education may be the best approach to achieve this link. The purpose of this study is to investigate the differences of the traditional cooperative education student and the non-traditional cooperative education student with respect to the benefits perceived from the various dimensions of the Macomb Community College cooperative education program.

Your cooperation and participation in this study is appreciated. I can assure you that all questionnaire responses will be held in the strictest confidence. The code number you may notice on the questionnaire will be used only to determine those who have not responded after a period of time so that follow-up mailings to encourage responses need not be sent to the entire group.

Your responses are very important! Please take time to complete the questionnaire and return it today in the enclosed self-addressed envelope.

I thank you in advance for your valuable assistance and prompt reply.

Sincerely,

Beatrice C. Ullrich
Western Michigan University Doctoral Candidate
January, 1987

Dear

Recently, I mailed you a questionnaire asking for your participation in gathering important information regarding the cooperative education program at Macomb Community College.

The research project is being conducted with the approval of the Educational Leadership Department at Western Michigan University and the Cooperative Education Department at Macomb Community College. Your cooperation and participation in this study is appreciated. I can assure you that all questionnaire responses will be held in the strictest confidence. The code number you may notice on the questionnaire will be used only to determine those who have not responded.

Your responses are very important! Please take time to complete the questionnaire and return it today in the enclosed self-addressed envelope. If you have already returned the questionnaire, please consider this communication a "thank you" for your valuable assistance.

Sincerely,

Beatrice C. Ullrich
Western Michigan University Doctoral Candidate
APPENDIX D

Survey Form
Please respond to the following statements regarding your enrollment at MCC and participation in the cooperative education program.

I. COOPERATIVE TRAINING INFORMATION (Check the appropriate choice.)

What was your primary objective in participating in the cooperative education program? (Check one)

- To help me gain experience
- To help me gain employment
- To clarify my career goals
- To re-train for different employment
- To help with college expenses
- To re-enter the work force
- Other

What is your desired outcome at MCC? (Check one)

- Certificate program
- Two-year associate degree
- Transfer to a four year university/college
- Other

Which statement best describes your feeling about your participation in the cooperative education program at MCC? (Check most appropriate)

- Very satisfied
- Satisfied
- Average
- Disappointed
- Very disappointed

What was the result of your cooperative education experience?

- Provided skills necessary for employment
- Improved my ability to communicate with others
- Increased my confidence
- Other

Before enrolling in MCC's cooperative education program did you have (Check one)

- Prior full-time paid work experience
- No prior full-time paid work experience

Was your cooperative education job placement available at a time that accommodated your needs? (Check one)

- Available only during the day
- Available only during the evening
- Available both day and evening

Was the geographical location of your cooperative education job placement convenient for participation in the cooperative education program? (Check one)

- Yes
- No

Describe your current cooperative education assignment (Check one)

- Full-time
- Part-time

CONTINUED ON BACK
Did you have a break in your education? (Check one)

- Yes
- No

If YES to the above, what was the length of break in your education?

______ Number of years

Are you currently enrolled at MCC (Check one)

- Full-time (12 hours or more)
- Part-time (Less than 12 hours)

What would be the range of your grade point average? (Check the most appropriate)

- 4.00 - 3.60
- 3.59 - 3.00
- 2.99 - 2.60
- 2.59 - 2.00

What is your curricular area? ______________________

What is your age? ______

What would make the cooperative education program more beneficial to you? (Explain)

__________________________________________

__________________________________________

II DEMOGRAPHIC INFORMATION

Sex: [ ] Male
[ ] Female

Marital Status: [ ] Single
[ ] Married
[ ] Divorced
[ ] Separated
[ ] Widowed

If you would consider a personal interview allowing me to obtain additional insight to your cooperative education experience, please list your name and telephone number.

Name: ______________________________________

Telephone Number: __________________________

THANK YOU FOR COMPLETING THIS SURVEY


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Park, G. W. (1943). *Ambassador to industry—the idea and life of Herman Schneider*. Indianapolis, IN: Bobbs-Merrill.


Western Michigan University. Non-traditional student news. (Summer Semester, 1987). (p.1), Kalamazoo, MI: Western Michigan University.


