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Perceived benefits of a community college cooperative education program.

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PERCEIVED BENEFITS OF A COMMUNITY COLLEGE COOPERATIVE EDUCATION PROGRAM

A Dissertation Presented

by

DIANE ROSS GARY

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COLLEGE COOPERATIVE EDUCATION PROGRAM

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To my mother Geneva E. Ross
Daughter, Makeyta and Son, James III

To my in-laws James H. Gary, Sr.
and E. Faye Gary

With special dedication to all
my family and friends that
have hung in there with me

In memory of James H. Gary, II

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ABSTRACT

PERCEIVED BENEFITS OF A COMMUNITY

COLLEGE COOPERATIVE EDUCATION PROGRAM

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Cooperative education has been in existence for approximately eighty three years as a tool to supplement classroom instruction with practical work experience. Some reports suggest that the combination of classroom learning and on-the-job training provides substantial benefits to cooperative education students. Despite these findings, cooperative education has not achieved the recognition that it probably deserves. This may be due to a number of reasons including: (1) lack of adequate promotion, (2) lack of adequate funding, and (3) lack of understanding of the program itself. A major contributing factor to these three limitations, is the failure of cooperative educators to sufficiently document the benefit of cooperative education programs. In fact, the reports attended to above have recognized the need for greater documentation of program benefits. The present study was undertaken to provide some empirical data regarding the perceived benefits of a community college cooperative education program. In conducting the study the researcher hoped to contribute to

the existing data base on the benefit of cooperative education by examining the professional development and personal growth effects of a cooperative education program. The study was an ex post facto retrospective survey conducted among 460 former cooperative education students from Quinsigamond Community College in Worcester, Massachusetts. A survey instrument called the Cooperative Education Assessment Survey (CEAS) was developed specifically for the study. The results indicated that a majority of the participants assessed the professional development and personal growth benefits of the program positively. No gender differences were observed. However, significant race, age, employment status and enrollment status differences were found.

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CHAPTER I

INTRODUCTION

Cooperative education may be regarded as providing a bridge between career choices and academic skills critical to successful job performance. One of its major contributions is the idea that a critical relationship exists between formal classroom education and the world of work. Schooling does not necessarily guarantee productive careers. Although schools are major institutional vehicles for professional training, a larger education and training system exists in our local communities. These training systems consist of private sector corporations and major institutions in the public sector. As a professional educator, it is this writer's belief that our capacity to provide effective career training depends greatly on the private and public sectors to improve the quality of life in society. In short, successful cooperative education programs are grounded in an interdependent effort by the total community working together to provide productive citizens according to the particular mix of needs, resources and leadership available in both the private and public sectors.

The external environment is critical to the success of cooperative education. Demands emanating from the larger society are exerting increasing pressures on community colleges and universities to produce a different kind of product. Competing international interests demand us to produce a more competent society that can compete with

individuals beyond the borders of this country. It is imperative, therefore, that cooperative education be viewed as a complex intellectual and social activity because it strengthens the bond between colleges and communities. Professional educators must be prepared to educate our citizens to live in an increasingly technological, interconnected and ever-changing world. It is obvious that this cannot happen until a strong foundation in cooperative education becomes an integral part of most, if not all, education programs.

The Origin of Cooperative Education

Cooperative education it is generally known and practiced in this country, was developed by Herman Schneider at the University of Cincinnati in 1905 (Schneider, 1935). At that time, he was appointed Dean of the College of Engineering. In 1927, he was appointed President of the University. While teaching, he observed that most students had tried to get some kind of relevant experience while attending college. Schneider then began to recognize that there were aspects of every profession that could not be learned in the classrooms, but must be learned where that profession is practiced. Focusing on the engineering profession, he argued that, "The theory of the cooperative system is very simple. Engineers, like doctors and lawyers, are trained for practice. Judgment based upon experience must supplement theory." (p. 418) His cooperative plan was to develop a work-oriented

education where:

1. the college would maintain its own shop, duplicating as much as possible actual factory conditions;
2. students would use their vacation periods to acquire hands-on experience (p. 418).

Schneider believed that his educational approach would require the cooperation of both the university and industry to make the program work. Education would provide the theory and industry would provide the practice. The first cooperative program required six years for the baccalaureate degree. It was first offered in the discplines of mechanical, electrical, and chemical engineering. In the first class, there were twenty-eight students enrolled in the program. During the second year of the program, sixty students were admitted into the program (Schneider, 1975). Because of Dean Schneider efforts, the real success of the cooperative system has been its adaptability to a variety of situations, majors and institutions. It has maintained the ability to allow students to try an occupation before completing their education. It also appeals to industry on sound economic grounds. Since its inception at the University of Cincinnati, cooperative education has taken many diverse forms.

In 1910, Herman Schneider had no idea how his cooperative education concept would spread across this

country. He was a prophet not only because of his ability to forsee what would happen to his ideas about cooperative education, but also because of his zeal to promote these ideas. Everywhere he went, he talked about his cooperative education plan. He also wrote about it in numerous scientific and educational journals. All the schools that adopted cooperative education in the early years emphasized that their plan was based on Schneider's plan. Schneider's insight can be seen in his argument that:

> In cooperative law, medical, commercial, agricultural, architectural or mining courses, it is evident that the amount and character of practice would vary greatly. I believe, and sincerely hope that there will be many forms of the cooperative system adopted by different institutions and out of all these we shall probably get...the best forms (Schneider, 1910, p. 387).

The Beginning of Cooperative Education in Massachusetts

In 1908, cooperative education was introduced into the secondary schools in Fitchburg, Massachusetts. Daniel Simond, a manufacturer in that town heard Dean Schneider discuss his plan at a New York conference of metal manufacturers. Simonds believed that this was a good method of training high school students in the vocational education program. When the school committee learned of this unique program, they sent a group to Cincinnati and invited Dean Schneider to prepare a plan of industrial education that would fit their local needs and, with the

assistance of local school authorities, organize the first public cooperative high school in this country. In 1908, the program started and became a model for similar programs in high schools from the East Coast to the Mississippi River (Schneider, 1975).

The second college to adopt Schneider's plan of cooperative education was the Polytechnic School of Boston YMCA Evening Institute (later to be known as Northeastern University). In 1909, because of demands for day schools in engineering, the Boston YMCA established the Day School of the Polytechnic Institute which was based on the cooperative system of education. Frank Palmer Speare and Carl S. Ell, the first and second Presidents of the University, respectively, were responsible for the early development of cooperative education at the institution. Speare was the Educational Director at the YMCA when the Cooperative Day School of Engineering was opened, and Ell was the Dean and later President, who led the college through its initial development as a separate, private, accredited institution of high education.

It was during these fomative years that the character of Northeastern's cooperative education plan was established. Ell (1935) stressed the personal development and social adjustment of the student when he asserted:

> The purpose of the cooperative plan, is not merely to make us a new and unique method in education, but rather to unite in a single well-integrated program the

> educational values of both work and study to the end that each student may develop the utmost...that will be fruitful to him and to society (p. 456)

Another aspect of this program, which was not always recognized or required, is that of receiving a fair wage for the day's work. At Northeastern, paid employment has always been a part of the program. In its first catalog, the University stated that:

> The plan is to operate...a school in cooperation with business firms which employ the students in pairs, each one working alternate weeks, receiving so much per hour for his services while so employed, the earnings from this source being sufficient to defray all expenses of his education (Bulletin of the Cooperative Engineering School, 1910, p. 50).

The responsibility of the higher-education institution toward the cooperative program takes many forms today. At some colleges, students must find their employment opportunities themselves.

At others, a person called a "job developer" secures cooperative education positions for students, while a faculty member assumes the responsibility for supervising the learning that takes place in the off-campus settings. Still other institutions see the cooperative program as an outgrowth of student services or of the placement office. At Northeastern University, the institution assumes the responsibility for all aspects of the cooperative program

through the appointment of coordinators. These coordinators are charged with all tasks relating to the operating of the cooperative education plan. They are housed in a centralized Department of Cooperative Education yet have faculty appointments in their respective colleges. The role of the coordinator has been clearly defined since the inception of the program (Ell, 1985).

Not all the community colleges in the Commonwealth of Massachusetts have a cooperative education program at this time. For various reasons, but mostly due to funding, cooperative education programs have come and gone. At present, the following community colleges in the Commonwealth of Massachusetts have cooperative education programs:

Bristol Community College

Bunker Hill Community College

Cape Cod Community College

Holyoke Community College

Massachusetts Bay Community College

Massoit Community College

Mount Wachusett Community College

North Shore Community College

Northern Essex Community College

Quinsigamond Community College

Roxbury Community College

Springfield Technical Community College

The majority of the cooperative education programs at

the community college level in the Commonwealth of Massachusetts receive or have received federal funding. It is appropriate to provide the definition that the Federal Government provides for Cooperative Education under title VIII of the Higher Education Act of 1965.

"Cooperative Education" means a method of education which includes:

1. Alternating or parallel periods of study and employment;
2. Formal work experience agreements among the institution of higher education, the student, and the employer;
3. Work experience which are of sufficient number and duration;
4. Work experiences which are related to the students' academic programs of study or career goals;
5. Student work experiences which are monitored, supervsied and evaluated;
6. Student employment which is compensated in conformity with Federal, State and Local laws (Federal Register, June, 1987 p. 17253).

"Parallel periods of study and employment" means periods of both classrooms study and monitored and supervised public or private employment of a student in a cooperative education project, with the student carrying a half-time academic course load and working about 20 hours

per week in a cooperative education work experience.

"Student" means a person -

1. Enrolled in an institution of higher education other than by correspondence;
2. Enrolled in -
   i. A graduate degree program;
   ii. An undergraduate degree program of not less than two academic years; or
   iii. An undergraduate certificate program of not less than one academic year if the program is provided by an institution of higher education that offers a two-year program which is acceptable for full credit toward a bachelor's degree; and
3. Carrying at least one half the academic workload normally required of persons who are full-time degree candidates (Federal Register, 1987, p. 17253).

There is a need in the cooperative education community to conduct research to determine program achievements.

This dissertation focused on the cooperative education program at Quinsigamond Community College. Following is a brief history of this institution.

Brief History of Quinsigamond Community College

The Worcester Area Chamber of Commerce submitted a request to the Massachusetts Board of Regional Community Colleges stating that they felt a community college in their city would be a welcome addition to their community.

This request was submitted on December 15, 1961 and was granted on February 1, 1963. This established Quinsigamond Community College as the sixth of the fifteenth community colleges. The governance structure for public higher education was changed during a legislative action in 1980 that created the Massachusetts Board of Regents, with an addition of a local Board of Trustees.

Quinsigamond Community College opened its doors in September, 1963 with 268 students and fifteen faculty members. As of October 1983 the college had 5,002 students (day and evening) and 94 full-time faculty members (The Five Year Plan 1983-1988).

The college offers Associate Degree programs in the following:

Basic Engineering

Business Administration

Business Technology

Computer Maintenance Technology

Criminal Justice

Dental Hygiene

Early Childhood Education

Electronics Technology

Executive Secretarial

Fire Science

General Studies

Liberal Arts

Nursing Education

Occupational Therapy

Radiologic Technology

Respiratory Therapy

In addition to the Associate Degree programs, Quinsigamond Community College strives to meet the regions educational needs through career and special needs courses and programs, which is the thrust of the mission of the college. The college is based on a one college concept (day and evening combined.) Therefore, its missions and goals are extended to both day and evening students.

As per the "The Five Year Plan - 1983-1988," the colleges goals which has been established by the trustees, faculty and staff to accomplish its mission:

1. To offer baccalaureate parallel and career programs preparing students to transfer into baccalaureate programs and for immediate employment.
2. To support the economic health of the local community by training workers in both job-entry skills and in general education, enabling them to respond effectively to present and future technological and social changes.
3. To utilize the total community as a laboratory for learning, place where practicable, students in a real-world laboratory involving the solving of actual problems rather than only the accumulation of knowledge, so that the students may understand

they utilize what he/she is doing in a relationship to the world of work, government, and human relationships.

4. To facilitate the development of the broadly educated person; one who possesses not only technical competence but is able to think effectively and communicate well; one who appreciates the arts; and one who understands interaction among the various elements of the environment; one who is sensitive to the dignity of work; and who is alert to the increasingly complex problems of society.
5. To create an environment that will build a lifelong commitment to learning; that will develop a range and depth of programming to provide experience; that will stimulate a greater awareness, understanding, and appreciation of human differences and needs; and that will be comfortable for students from varied backgrounds.
6. To contribute to the promotion and practice of democratic ideals through programs of access for disadvantaged students including members of ethnic and minority groups.
7. To provide college prepartory programs, including testing, career assessment, basic skills assessment, and remedial and developmental education for educationally disadvantaged

students, including members of ethnic and minority groups.

8. To assist students in emotional and social development, clarification of personal values, and sensitivity and concerns for interpersonal relationships.
9. To recognize physical development as an integral part of the individual's total growth by encouraging physical education curriculum development, intercollegiate and intramural competition, and recreational and health maintenance programs.
10. To continue to maintain and improve campus facilities so as to promote a safe, healthy, and physically attractive campus as a superior learning environment.
11. To provide such systems, services, and facilities that will contribute to the maintenance of a healthy climate for students, faculty, and staff by continuous planning and evaluation of all aspects of college operations with the ultimate aim of facilitating student learning.
12. To promote community services by encouraging the use of college facilities and equipment; cooperating with various agencies and groups in delivering cultural, social and recreational programs; and coordinating with public and private

agencies in providing educational, training and employment services.

13. To develop awareness and knowledge of the community about college programs, services, and needs for the purpose of improving its involvement and support for accomplishing the mission of the college (Quinsigamond Community College Five Year Plan 1983-pp. 8-9).

Quinsigamond Community College was awarded a Federal Title VIII Cooperative Education Grant in September of 1979. The program was not fully activated until the hiring of a Director in March of 1980. It was the task of the Director to implement a program based on a plan of action developed by a committee of faculty members. Key to this plan were the objectives outlined in the original Cooperative Education Title VIII Grant proposal:

1. to develop close working relationships between the college and local employers which will assist the college in strengthening its occupational curricula and provide students with "real world" experiences to both complement and supplement their classroom experiences;
2. by parallel periods of work and study, to assist students in obtaining academic credit and both much needed income and job exploration and experience;

3. to provide students with organized career planning and educational experience;
4. to provide extra incentive and services for disadvantaged, minority, handicapped, and female students at Quinsigamond Community College;
5. to assist in obtaining better full-time employment for graduates in jobs more closely related to their academic programs;
6. to promote better relations between the college and the community it serves;
7. to give students the benefit of working with the most current equipment and practices in use in the fields (Quinsigamond Community College Cooperative Education Proposal, Title VIII, p. 4).

Quinsigamond Community College is committed to the comprehensive community college philosophy of meeting the post high school educational needs of its service area by providing educational opportunities that will permit the people of the area to enrich their lives, develop themselves personally and to advance their careers to the limit of their desires and capabilities. The cooperative education program does help make this philosophy a reality.

At Quinsigamond Community College, cooperative education is defined:

...and educational program offering paid on-the-job training related to the students field of study. Essentially, it is the integration of classroom theory and

practical work experience--with specific periods of attendance at the college and specific periods of employment (Cooperative Education Student Brochure, 1980).

As previously mentioned the college was awarded a Title VIII Grant in 1979 for $48,000. It was not awarded another grant until 1982, which allowed for the hiring of an Assistant to the Director, whose main responsibility was job development. From September 1980 until August 1982 the college fully supported the cooperative education program financially. This was a good sign, because historically most programs do not continue when funding ends. The last year of receiving funding was for the 1987-88 year in the amount of $58,000.

The feeling of the students, employers, and faculty is that the cooperative education program is a much needed one. Cooperative education at Quinsigamond Community College is mandatory in the following programs:

Automotive Technology

Hotel Restaurant Management

Travel Tourism

The program is available as an option in all the other college programs. Cooperative education at Quinsigamond Community College is a program that depends upon the college and community for support and involvement to realize its objectives. It's organization model

incorporates a centralized administration in academic affairs with a decentralized combined function coordination at the department and divisional instructional levels.

The opportunity for at least two cooperative education experiences provide the student with the continuity and length of exposure needed to best impact ones education. These experiences can involve assuming progressively more challenging placements or a chance to explore various career field.

To determine a positive placement experience the following guidelines are used:

1. The work provides an opportunity to apply classroom knowledge to actual practice and contributes to one's curriculum.
2. The job itself is in line with the student's level of competence and the work/learning environment contributes to one's career aspirations.
3. The work provides an opportunity for exploring a variety of tasks by movement through a number of different assignments.
4. The work provides for opportunities to test career interests.
5. The work meets the students goals and objectives.

The cooperative education student must complete with the guidance of the employment supervisor and faculty supervisor a "learning contract."

The main purpose of this contract is to have good communications between all parties involved. The contract identifies the objectives to be achieved during the upcoming placement and a plan for evaluating those objectives. This contract is completed the first two weeks of the semester.

The faculty supervisor meets with the employer at least twice during the semester to discuss the cooperative education student placement. The student may meet with the faculty supervisor at any time. As a group the students are required to attend three cooperative education seminars during the semster on a Saturday morning. Seminar topics:

1. Orientation
2. Guest speaker from business/industry
3. Wrap-up sharing of experiences

   Completion of student evaluation form

The student is also required to submit monthly evaluation forms, so that the cooperative education office and faculty supervisor have additional information about the placement.

At the end of the semester the following evaluations must be completed so that the cooperative education office is keep abreast of the correlation between the student's work experience and their academic studies:

1. Faculty evaluation
2. Employment supervisor's evaluation
3. Student evaluation

To promote cooperative education to potential students and employers, the College has supported the program during its eight year existence through the following activities:

Student Recruitment:

1. Faculty Referrals: The Assistant to the Director speaks at the Divisional meetings.
2. Cooperative Education Presentations: To incoming freshman during orientation period.
3. Distribution of Cooperative Education Student Handbook.
4. Cooperative Education Public Relations Package: Cooperative education folder, brochure, student handbook, and brief overview sheet.
5. Advertisements on bulletin boards, which encourages walk-ins.
6. Recommended use of the Guidance Information systems: Computer provides students with current information about various vocational fields, educational programs, and colleges. In addition, it identifies major employers in career areas.
7. Other promotions: College newspaper, "Open Door," college catalog, career fair, cooperative education newsletter and college handbook.

Employer Recruitment:

1. Phone calls to provide additional information to participating employers and to encourage new participation.

2. On-site visits to potential employers to have them become aware of the program and its benefits to them.
3. Employers are encouraged to meet at the college.
4. Cooperative education advisory committee.
5. Cooperative education newsletter.
6. Cooperative education employer brochure.
7. Department advisory committees

Statement of The Problem

A careful review of the available literature indicated a dearth of systematically conducted evaluation studies on the benefits of cooperative education programs.

The Cooperative Education Program at Quinsigamond Community College was established during the summer semester of 1980. The purpose of the present study was to examine the perceptions of students who graduated from the program regarding the value and benefit they derived from being cooperative education students at Quinsigamond. The study was intended to address the absence of students perception data on the benefits of cooperative education programs in general and such programs at the community college level in particular.

Specifically, the present study addressed the following questions:

1. Do more subjects perceive the cooperative education experience at Quinsigamond as being beneficial than not beneficial to them in terms of

their professional development and personal growth as measured by the Cooperative Education Assessment Survey (CEAS)?

2. What are the perceived benefit ratings of the program in terms of personal growth and professional development items on each item of the CEAS?
3. Are these significant gender differences on the benefit ratings of the program as measured by the CEAS?
4. Are there significant present-age (age at time of survey differences perceived on the benefit ratings of the program as measured by the CEAS?
5. Are there significant enrollment age (age at time of enrollment in the program) differences on the benefit ratings of the program as measured by the CEAS?
6. Are there significant enrollment status differences on the perceived benefit ratings of the program as measured by the CEAS?
7. Are there significant race differences on the perceived benefit ratings of the program as measured by the CEAS?
8. Are there significant employment status differences on the perceived benefit ratings of the program as measured by the CEAS?

9. Are there significant present-study-status differences on the perceived benefit ratings of the program as measured by the CEAS?
10. Are there significant differences between personal grwoth and professional development ratings of the program as measured by the CEAS?

Significance of Study

Many community college students are mature and already employed in meaningful jobs when they enter college. It seems reasonable to build on this experience rather than either ignore it or insist that is immediately restructured (Schuetz, 1981).

No study has been done at Quinsigamond Community College to see how the cooperative education students have fared. Did participating in the cooperative education program add a dimension to their college experience? Over the years many colleges have operated cooperative education programs without gathering research data that could be helpful to the national cooperative education community. If a program is deemed to be successful, the method for measuring success should be clearly articulated.

According to Heinemann 1988, cooperative education has helped the lesser prepared students toward making a greater commitment to their studies as they experience pay offs for their efforts. Further, a successful cooperative education experience might well improve a student's self-image, especially when prior educational experiences

have neither been particularly successful, satisfying, nor rewarding. For students facing financial pressures, cooperative education can help to provide the much needed income that allows them to remain in college.

Definition of Terms

Alternating Period - the rotation between academic study and work.

Apprenticeship - novices who serve under contract to master workers for prescribed periods of full-time employment to learn, through practical experience, a particular trade or to enter a specific skilled profession or guild.

Community College - an institution whose very existence is dependent upon the community and whose justification is the service of the educational needs of its populace.

Cooperative Education - (co-op), a program that links the classroom with the work place to provide an education with career relevance.

Cooperative Education - General provides elements of self-development best achieved through experience; explores occupational interests and skills

as a means for making or confirming a career choice or directing further education.

Cooperative Education - is designed to serve a specific Vocational education or training objective.

Employer Supervisor - is responsible for supervising the student on the job.

Faculty Supervisor - is responsible for supervising the learning experience that takes place on the job.

Internships - unpaid experiences that have a broad career and orientation to work purposes, as opposed to specific career preparation.

Job Developer - a professional staff member at an institution who secures cooperative education placements for the students.

Learning Contract - identifies the objectives to be achieved during the placement and a plan for evaluating those objectives.

Parallel Period - academic study and work are taking place concurrently.

Pre-employment Training - dropout prevent programs that emphasize school-to-training work transition models, particularly a variety of pre-employment training activities.

Work Study - students are paid to work in a position that is not necessarily related to their field of study.

Youth-operated enterprises - programs that allow youth to take responsible "in-between" roles in ordinary business, industry and service organizations.

Limitations

The following are acknowledged as limitations of the present study:

(1) The study was retrospective in that it required former students of the Quinsigamond Community College Cooperative Education Program to recall their experiences. Retrospective studies are always subject to error in the form of recall failure and bias.

(2) No attempt was made to control for some significant factors that may have influenced perceptions of program benefits. Some of those uncontrolled factors included

socioeconomic status, career specialty and geographic area of residence.

(3) The assessment of program benefit was limited to issues related to professional development and personal growth. Students may have benefited in other ways from the program.

(4) Students included in the sample for the major study were not randomly selected but rather were self-selected based on returns of completed surveys. Thus the obtained results were susceptible to sampling bias, and were therefore not generalizable beyond the study sample.

(5) The data analyses were limited to the examination of main effects for the independent variables of gender, age, race, employment status and enrollment status and did not examine interaction effects.

(6) The data analyses include a series of one-way analyses of variance procedures for each individual and dependent variable and did not include multiple analysis of variance procedures.

Assumptions

The study was premised on the following assumptions:

(1) Students would be able to recall with some accuracy their experiences at Quinsigamond as cooperative education students.

(2) Students would respond honestly to questions regarding the benefit of the cooperative education experience at Quinsigamond.

(3) The sample of students who respond to the questionnaire would be fairly representative of past cooperative education students at Quinsigamond.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this section is to present a review of the literature and studies on the impact of the cooperative education program.

During the 1987 school year over 200,000 college students participated in cooperative education programs. The cooperative education community has taken a more active role in recruiting students. There is a national advertising campaign which is in its third year, with print, radio, and television advertisement. Local colleges have been able to tag on at the end of the radio and television announcements. In addition a new thrust has been for colleges to develop their own media advertisement.

Cooperative Education in Community Colleges

A Framework for Cooperation: community colleges can be usefully viewed as an extension of the community--an institution whose very existence is dependent upon the community and whose justification is the service of the educational needs of its populace. The notion of separation of college and community to preserve education integrity and purpose is disclaimed. In its place is the philosophical stance that the college ought to be integrated with the community and its vital economic and social pursuits. The term, community college connotes a close inter-relationship of the college and the life of the community. The college must look to the community for

suggestions in program planning and the community must look to the colleges many different services to different community residents (Heerman, 1975).

Community colleges that best maintain the integrity of their mission use mechanisms for facilitating community inputs, coupled with carefully conceived feedback systems. The position of this writer is that the single best hope of achieving the community aspect of the community college philosophy is a carefully planned and organized comprehensive cooperative education program. While there is a lack of consensus about what the community college is, or what it should be, certain parameters nevertheless are important to community college cooperative education. Cooperative education can be adapted to the varied educational missions of the community college. Of particular significance, it offers the potential for a rejuvenation of the community dimension of the community college. The potential for community is a direct result of a college's active participation of the community's economic, social, and technological activity. Community colleges must go beyond the development of curriculum based upon community survey and advisory committee advise (Heerman, 1975).

Cooperative education at the community college should be interpreted to include the notion of comprehensiveness. Because of the unique philosophy of the community college and its variety of functions, cooperative education should

not be considered relevant to only one or a few programs, but should be available in all of the diverse programs for community college students. In 1922, Riverside Junior College in California was the first junior college to adopt cooperative education. The college offered cooperative education as an option in nursing, library science, architecture, engineering, and other vocation area. In 1928, at Marin Junior College (also in California) a work-study program was initiated in conjunction with banks, steamship companies, and railroads in San Francisco. In 1924, Barland Junior college in Boston offered its own cooperative programs, and by 1939, fourteen junior colleges had programs. There were forty-one cooperative education programs at community colleges in 1941 (Barbeau, 1985).

The Cooperative Education Association roster for 1973 revealed that over 350 cooperative education programs were in operation at the collegiate level. Of this number, approximately 40 percent were at two-year programs. However, many other two-year colleges offer cooperative education but do not file with the major cooperative education organizations. For instance, many two-year colleges not accounted for in the statistics are operating vocationally funded programs under the 1968 Vocational Amendments and have professional affiliation with the American Vocational Association. Cooperative education holds great premise for the fulfillment of the community college mission in higher education. The relevance of this

education formula--called variously experiential learning, cooperative education, or work-experience education--should be of particular significance to community college educators, given their particular institutional purpose. In contrast to the high school with its practice of cooperative vocational education, and the four-year college or university, with is diversified pattern of cooperative education in professional career areas of the liberal arts, community college cooperative educators have no clear model or established tradition of education operation. There is evidence that a brand of institutional education philosophy is often developed without sufficient thought to its relationship to institutional mission. There is clear danger that meeting community needs and designing cooperative education to conform to institutional philosophy have become secondary to launching a program--any cooperative program. A sampling of community college cooperative education programs reveal that some are patterned precisely after the vocational educational model widely used at the secondary level, with a highly structured and specialized career program ridgidly directed at the development of an occupation skill.

Even though fewer in number, others have adopted program whereby personal development and exploration, including career exploration are stressed. Specific occupational skills development is not a major thrust of this cooperative philosophy, which emphasizes exploration

of a range of experience. Both cooperative education approaches are entirely valid to the degree that they conform with the college's philosophy in meeting students needs. According to Heerman (1975) the basic question to be faced is:

> "the decision to practice a particular co-op style conditioned on identifiable student needs and institutional missions or on an uncritical adaptation of a style of cooperative education that a university or secondary program has had success with?": (p. 11)

It is obvious that the concept and operation of cooperative education in community colleges is unfortunately clouded and confused by two different philosophies of education - one bearing the name of vocational cooperative education and the other more general type usually named general cooperative education (Dawson, 1973).

Cooperative vocational education is an independent combination of vocational instruction and employment. Employment under this arrangement is considered to be an extension of in-school instruction. A cooperative vocational education program, therefore, is designed to serve a specific educational or training objective. Students participate in cooperative vocational educational program because they wish to acquire qualifications for a predetermined area of comprehensive employment. In contrast, the general type of cooperative education

provides elements of self-development best achieved through experience; explores occupational interests and skills as a means for making or confirming a career choice or confirming a career choice or directing further education; helps the student attain basic vocational or preprofessional preparation; and utilizes work experience as a means of supplementary classroom learning in both general and specialized education (Dawson, 1971).

Because there are many philosophies of education that influence the orientation of cooperative education, it is critically important for community college educators to guard against the mistaken notion that cooperative education is a single, non-differentiated program with one central mission. Cooperative education can be influenced and structured to fit particular missions whether it be career exploration, personal development, upgrading, career preparation of programs serving the disadvantaged. The burden of decision rests with the community college administrator, who, in reality, has options far beyond one or two cooperative education styles. Educators in community colleges must adopt a new vision of cooperative education in light of their numerous and varied missions based on service to a diversity of student needs. A multifaceted cooperative education systems with the capability of adapting to a whole range of student orientations is clearly needed (Heerman, 1975, p. 14).

A Formula for Cooperative Education

Many groups are developing new ways for community college education related to programmed instruction, developmental education, new organizational strategies, and others. Most of these approaches are typical subsystems having specific tactical implications to the mission of specific institutions. Cooperative education is strategic to the fulfillment of the community thrust of community college. Commitment is essential to the success of cooperative education programs. Administrators committed to the values provided by experiential learning have secured programs success just as community colleges administrators who have secured success in a student services program or in instructional endeavors. However, a cooperative education program must be undertaken only after an examination of community college philosophy, objectives, organization and function - especially if the program is to achieve a strategic role in reaching institutional objectives. The tactical approach serves only to cloud the possible contribution of a cooperative education program to student growth. Cooperative education can and does work if administrative commitment is up to the task.

Cooperative education offers unusual value to students, employers, college and community alike. Cooperative education should be integrated in to all program areas. The view that cooperative education is the exclusive domain of vocational education and somehow is not relevant to

other student needs is shortsighted. Programs for the disadvantaged, career preparation, liberal arts, career search, evening programs, and the whole maze of community college endeavors should be programmed with cooperative education. Community colleges should also specify the behavioral changes sought by way of classroom instruction and during work-experience periods. Community college administrators must be very precise in the kinds of outcomes students can expect as a result of successful completion of the total program. In addition, community colleges need to refine and sharpen student orientation.

Surveys of cooperative students and graduates have demonstrated that intervals of full-time work integrated into the curriculum is a valuable source of occupational information presenting excellent opportunities for the reality testing of career goals and provides a realistic orientation to the world of work (Wilson).

Cooperative education builds on the patnership between students, schools, and employers. All share the responsibility to make the program work; all benefit from its success (Station, 1988).

One student's thoughts about his cooperative education experience was offered by Bennett (1977):

> Through co-op I have proved to myself that I can operate successfully in the working world. I was able to try myself and see how well I could do in

> a better work assignment - something quite different from what I was used to. How else would I have had this chance to more toward a more challenging career while still going to school? (p.4).

Many students have found the cooperative education program to be the most potent motivational force in their education. With constant reinforcement it has helped students toward completing their degree.

There is some general indication that the superior earnings of students in cooperative education may have been due to other unmeasured characteristics like age, ethnicity, prior work experience, and so forth. This researcher will explore some of these characteristics.

The Cooperative Education Career Planning Office at Houston Community College, Houston, Texas (1989) has developed a computerized occupational/technical student follow-up system.

Data that is generated includes a breakdown of students by program major, course, hours completed, employment status and educational objectives.

Because of the diversity of students enrolled at Houston Community College, two survey's were developed. Students who attend the Houston Community College System to prepare for work in a new field or to upgrade skills in their current field as preparation to obtain or change employment were potential follow-up subjects.

The primary objectives for follow-up are: 1) to determine if students obtained jobs as a result of their training in the Houston Community System; 2) to acquire salary data for dissemination to other students; 3) to get feedback from students about the effectiveness of the Houston Community College system's training; 4) to determine if there is a concentration of students working for certain employer's; and 5) to obtain up-to-date address and optional contact information.

The major problem or concern of this survey is because of such a diversity of students, with average enrollment of 10,000 to 11,000 per semester, it is difficult to develop which groups to follow and how to follow each group.

Heinemann, (1988) states that community college students tend to be older and more likely to be working than their four year college counterparts. Those adult students register at community college for a variety of personal reasons but most are interested in improving their financial status: single parents return to school in order to develop marketable skills; under-employed individuals seek to develop the skills that will lead to advancement within their own organization or qualify them for higher paying jobs with other employers; and individuals who have been or are being threatened with technological displacement seek to develop new skills that will enable them to find new employment.

Cooperative education has proven to be an effective strategy for community colleges. Cooperative education has

become a learning mechanism that is well suited to the needs and interests of the open enrollment student. The prospect of a challenging learning experience, with an opportunity to finalize a career decision before graduating, a chance of having a formalized work experience in the students field of interest which will strengthen the students resume and making contacts that will be useful later on.

Cooperative education has had a great impact at LaGuardia Community College, which is the only two-year college in the country that makes cooperative education mandatory for all full-time students. The college has made a commitment to the cooperative education program, with data that suggests that in the City University of New York system, LaGuardia's has a 30 percent completion rate which suggests that cooperative education is an important factor in student retention.

Hines, (1987) study was to identify the perception of selected educators concerning current issues and trends in Texas post secondary cooperative education.

Questions focused on current and proposed actions at the federal, regional, and state levels, that affected or will affect, cooperative education. To solicit these perceptions, the following research questions were considered: 1) What are the strengths of post-secondary cooperative education? 2) What are the weaknesses of post-secondary cooperative education? 3) What effects will

the transition of responsibility from Texas Education Agency to the Coordinating Board have on cooperative education? 4) What effects will the Carl Perkins Act have on the funding of cooperative education? 5) Will the recommendations of the Select Committee on Higher Education have an impact on cooperative education? If so, how? 6) What effects will the Southern Association's requirements of 15 hours of academic course work for vocational degree programs have on cooperative education? 7) In regards to the questions listed above, what trends can be projected for cooperative education over the next years (1986-1996)?

The evidence revealed in the review of literature suggested a need for further investigation into the strengths and weaknesses of cooperative education, the factors that have/will influence its operation, as well as an attempt to identify trends pertinent to this system.

The methodology used for this study was the Delphi technique, which used a four-phase process: 1) Selection of the Delphi Panel of experts; 2) Identification of current issues and trends using the Delphi Technique to establish a consensus of opinions among panel members; 3) Analysis of data; and 4) Preparation of a final report including procedures, results, and forcasts.

One of the conclusions was: cooperative education provides a number of benefits to students, including actual work experience; exposure to current procedures and state-of-art equipment; development of personal relations,

communication, and leadership skills; motivation to succeed in the classroom; the opportunity to earn funds to support college work; and better placement and advancement opportunities upon completion.

A study was undertaken by Krebs, (1987) to analyze the perceived usefulness of the cooperative education experience of community college graduates from the Production and Operating Management (POM) and Marketing Management (MAM) programs of Centennial College spanning the time period 1980-1985.

The survey was based on the effect of "Match Between Co-op Experience and First Job After Graduation" ("Match") on perceived "Usefulness of Co-op Experience ("Usefulness") was significant for both streams of graduates. The effect of "Challenge of Work Experience" ("Challenge") on "Usefulness" was considerably greater for POM graduates. "Demands Made by the Instructor," ("Demands") seem to have had little effect on "Usefull."

The limitations of this study were two: 1) allow return of questionnaires from the graduates from the MAM program (35%). The danger of self selection, and the small population; 2) methological problems associated with the historical cohort approach. Real hienes differences may exist in the perceptions of the usefulness of the co-op experience of 1980 graduates as compared with 1985 graduates. The POMT graduates perceived their cooperative education experience as more useful than MAM graduates.

In an article by James Wilson (1989), he discusses the assessing outcomes of cooperative education and how it has strengthened over the years. Three ways are: 1) more adequate instruments of measurement; 2) more systematic and elegant methodology, and; 3) greater effort to root the evaluation into some relevant theory, whether it be education, psychological, economic, or social.

Early studies were based on years of experience of the authors working with and observing cooperative education students, not on empirical data. As time went on evaluators identified variables to be investigated and then either used existing instruments or developed their own to collected data on which to based judgements concerning the influence of cooperative education on the variables in question.

Wilson continues to talk about the advantages and disadvantages of published questionnaires and inventories.

Advantages: 1) they are more convenient and they avoid the complex and time consuming task of instrument construction; 2) they typically provide important test information, such as validity and reliability; and 3) they provide opportunity to compare results of several studies which have used the same instrument.

The main disadvantage of published instruments is that often they do not measure precisely, or even closely what the evaluators seek to measure; hence, the decision to construct their own instruments. In Coilson's, judgement,

we are observing the development of greater sophistication in the specification of the variables to be assessed and in the construction of instruments to measure them.

According to Coilson we have learned a great deal about the positive effect of cooperative education students and their developments. We have developed better assessment instruments, with the accuracy and power of measurement being strengthened, and the methodology of evaluation more stringent and more sophisticated. Special note that more outcome studies are being grounded in some relevant theory, hypotheses are being formulated about cooperative education within the context of the theory, and testing these hypotheses becomes the focus of the outcome evaluation. Which Wilson feels is vital to the continued expansion of knowledge about the outcomes of cooperative education.

The cooperative education strategy for the 90's and beyond will include the expanding of the role of the cooperative education office. The cooperative education strategy will be further developed to provide schemes to suit various populations including returning adults, dislocated workers, active workers, as well as the recent high school graduates. Cooperative education will be marketed more often as a part of a comprehensive training package rather than as an independent training strategy. Cooperative education is doing a good job of serving the 200,000 students it currently does. Varty (1988) suggests that cooperative education can have an even broader and

more profound impact upon human resources development in business and industry if it changes in response to the political economic and educational realities of the 90's and beyond.

Although this researcher's main focus is on cooperative education programs at the community college level, it is important to point out that cooperative education programs do exist at the high school level.

On the high school level, cooperative education is considered one of the monitored work experience programs which also include internships apprenticeship, pre-employment training and youth-operated enterprises. According to a report by the William T. Grant Foundation Commission on Work, Family and Citizenship (1988). They have found that cooperative education's full potential has yet to be explored. They believe it to be appropriate and useful for many more high school students than are now exposed to it. They urge community and school leaders to accord it a "second look," for college-bound as well as non-college-oriented students.

In the William T. Grant Final report (1988), it is stated that cooperative education has a solid achivement record and merits far more attention than it has received.

CHAPTER THREE

METHODOLOGY

The methods and procedures followed in conducting the research are described in this chapter. Included is a discussion of: (1) instrument development and pilot study (2) study sample (3) study design (4) instrument (5) procedure (6) research hypotheses (7) data analysis.

(1) Instrument Development and Pilot Study:

a. Instrument Development

To measure attitudes toward the cooperative education experience at Quinsigamond Community College, the researcher developed a pre-coded questionnaire called the Cooperative Education Assessment Scale (CEAS). The first draft of the CEAS consisted of two parts. Part A was labeled Background Information. It solicited information on gender: present age; age at time of graduation from Quinsigamond; enrollment status at Quinsigamond; race; and current employment status.

Part B of the initial draft of the CEAS was a likert type scale consisting of 15 positive statements about the cooperative education program at Quinsigamond. Subjects were to indicate their degree of agreement or disagreement with each statement by circling either (1) strongly disagree (2) disagree (3) neither agree or disagree (4) agree (5) strongly agree. Eight of the fifteen items related to the perceived benefits of the program on professional and career development. These were items 8,

10, 11, 12, 14, 17, 18, and 21. The other seven items were concerned with the benefits of the program with regard to personal growth. These were items 7, 9, 13, 15, 16, 19, and 20. The items on this draft of the questionnaire were numbered consecutively beginning in part A; the background section. Part A consisted of six questions.

The initial draft of the CEAS was developed by Dr. Norris Haynes, an assistant professor at Yale University who served as a consultant to the project with input from the researcher and members of the researcher's dissertation committee at the University of Massachusetts, Amherst campus. A copy of the piloted draft of the CEAS is included as Appendix A-1.

Pilot Study

The researcher obtained official lists of former Quinsigamond cooperative education students from the registrar's office. The lists included students who were in the cooperative education program between 1980 and 1987. A total 460 unduplicated names were listed, with mailing addresses. A random sample of 60 names (13 percent) was selected and a copy of the pilot version of the CEAS with a cover letter mailed to each individual on May 22, 1989. A table of random numbers (Kerlinger 1986) was used to select the subjects. The letter requested that the completed CEAS be returned by June 9, 1989. This target date gave individuals two weeks in which to respond. A consent form was also included. Subjects were

provided with the opportunity to request a copy of the results of the pilot study by completing the bottom half of the consent form. This section of the form included the statement "please send me a copy of the report." Subjects were required to check (x) the statement and provide the names and addresses if they desire a copy of the report. A copy of the consent form and cover letter are included as Appendix A-2 and A-3.

Thirteen mailings were returned by the Post Office due to incorrect mailing addresses. Fourteen completed questionnaires were returned. This constituted a 30% return rate based on delivered mailings. Information from the pilot study was used to modify the initial draft of the CEAS. Several changes were made as a result of specific comments provided by subjects and following further consultations with members of the researcher's dissertation committee and the consultant at Yale University.

The changes included the following:

(1) Roman numerals replaced letters for the major parts of the CEAS (2) the choices for each question under Background Information were numbered using arabic numbers (3) a 36-39 age category which was inadvertently ommitted under present age in the pilot version was added (4) an under 20 age category was added for item C under Section I (5) a sixteenth question was added to part II (Part B in the pilot version) (6) a Part III was added which asked respondents to: (a) indicate the strengths and weaknesses

of the program (b) offer suggestions for improving the program (c) offer any additional comments.

Further analysis of the pilot study included frequency analysis for the categorical variables in the background section and descriptive data for the fifteen items on the likert scale. Frequency analysis indicated that: 7 (50%) were female and 7 (5%) male. With regard to race, 1 (7%) was black and 13 (93%) were white. At the time of the survey nine (64%) were employed full time;, 3 (21%) were employed part time and 2 (15%) were unemployed. Five individuals (37%) were between 20-25, 3 (21%) were 26-29; and 1 (7%) was 30-35; 2 (14%) were 36-39; and 1 (7%) each was 40-45, 46-50 and over 50. An examination of the age of the pilot subjects while they were cooperative education students indicate that: 6 (46%) were between 20-25 years old; 1 (8%) was 26-29; 1 (8%) was 30-35; 2 (15%) were 36-39; 2 (15%) were 40-45 and 1 (8%) was 46-50. With regard to enrollment status, 10 (71%) were full-time day students; 2 (14%) were part-time day students; and 2 (14%) were part-time evening students. These demographic data and means and standard deviations for the pilot sample on the fifteen questions are presented in tables 1, 2 and 3.

Study Sample

For the major study, a total of 400 questionnaires were mailed. This number excluded the 60 individuals to whom questionnaires were mailed as part of the pilot study. One hundred and twenty seven (32%) of the mailings were

returned by the Post Office due to incorrect address information. Thus, 273 mailings were delivered. Of 273 that were delivered, 132 were completed and returned. This constituted a 48% return rate based on the delivered questionnaires.

A majority of the subjects were: (1) females (70%); (2) between 20 and 25 years old (31%) at the time of the study; (3) between 20 and 25 years old (44%) at the time of enrollment in the cooperative education program; (4) full-time students at the time of enrollment in the cooperative program (65%) white (95%); (5) employed full time at the time of the study (74%); and (6) not students at the time of the study (71%). The demographic profile of the sample is presented in Table 4.

Study Design

The study may be best classfied as an expost facto non-scientific non-experimental survey. Subjects were not randomly selected for participation but rather were self-selected on the basis of their having returned completed questionnaires and consent forms. This constituted a limitation of the study and is discussed in the limitations section.

Instrument

The survey instrument used was a three part questionnaire developed by Dr. Norris Haynes, a Yale University professor in consultation with the researcher and with input from members of the researcher's

dissertation committee. The revised Cooperative Education Assessment Survey (CEAS), included a total of 26 items in the three sections.

Section I labeled Background Information included six items that solicited information on: A. Gender; B. Present Age; C. Age When A Cooperative Education Student; D. Enrollment Status at Quinsigamond; E. Race; F. Current Employment Status; G. Current Student Status. Section II was a likert type scale that consisted of sixteen positive statements regarding the benefits of the program. Respondents were to indicate their extent of agreement or disagreement with each statement on a five point scale. Nine of the sixteen items measured perceived program effect on professional development and seven items measured perceived program effect on personal growth. Section III consisted of three open ended questions that asked subjects to: A. Identify the major strengths and weakness of the program; B. Offer suggestions for improving the program; C. Offer additional comments about the program.

Psychometric analyses included reliability assessments using Cronbach's alpha and Spearman brown split half. The CEAS was found to have a Cronbach's alpha of .91 and an equal length and unequivalent length Spearman brown of .89.

A copy of the instrument is included as Appendix B-1.

Procedure

The researcher, a former director of the Cooperative Education Program at Quinsigamond Community College

contacted the office of the President in the Fall of 1988 to discuss the possibility of conducting the study. Following initial discussions, a more formal written request was made and (see Appendix C) permission was received. A list of cooperative education students at Quinsigamond Community College between 1987 and 1989 was obtained from the cooperative education office. The list included the most current mailing information available.

A total of 460 unduplicated names were included on the list. The major study excluded the 60 names which were randomly selected from the list for the pilot study. The survey questionnaire, a cover letter (see Appendix B-2) and consent form (see Appendix B-3) were mailed to the other 400 individuals whose names were on the list. The cover letter introduced the researcher and explained the purpose of the study. These were mailed on August 1, 1989. Respondents were asked to return their completed questionnaires and signed consent forms by August 31st. Provision was made for individuals wanting a copy of the final report of the study results to indicate this on the consent form.

Of the 400 mailed questionnaires, 127 (32%) were returned by the post office due to incorrect address information. It is assumed that 273 questionnaires (68%) were delivered. Of the 273 delivered questionnaires, 132 were completed and returned. This consistituted a 48% return rate based on the 273 that were delivered. Thus,

141 (52%) of the 273 assumed recipients of questionnaires did not respond for unknown reasons.

Research Hypothesis

Hypothesis #1: More than half of all subjects "agree" or strongly agree with each of the positive statements on the CEAS regarding the benefits of the cooperative education program at Quinsgiamond Community College.

Hypothesis #2: The program does not receive a less than 3.0 rating on any perceived benefit measured by each of the sixteen items on Part II of the CEAS.

Hypothesis #3: There are no significant gender differences on mean ratings of each perceived benefit of the cooperative education program measured by each of the sixteen items on Part II of the CEAS and on the professional development and personal growth subscales.

Hypothesis #4: There are no significant present-age differences on the mean ratings of each perceived benefit of the cooperative education program measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: professional development and personal growth.

Hypothesis #5: There are no significant differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth based on the age

categories of students while they were enrolled in the cooperative education program at Quinsigamond Community College.

Hypothesis #6: There are no significant differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth, based on subjects enrollment status when they were cooperative education students at Quinsigamond Community College.

Hypothesis #7: There are no significant race differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth.

Hypothesis #8: There are no significant employment status differences on the mean ratings of each perceived benefits of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth.

Hypothesis #9: There are no significant differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean

CHAPTER IV

RESULTS

The results of the study are presented in this chapter. The organization of the chapter involves the restatement of each research hypothesis, a discussion of the analysis conducted to test it and the results of the test of the hypothesis. Frequency distribution of responses for the entire sample on the CEAS is presented in Table 5. Descriptive data for the entire sample on all 16 items and on the professional development and personal growth subscales are presented in Table 6.

Hypothesis #1

More than half of all subjects "agree" or "strongly agree" with each of the positive statements on the CEAS regarding the benefits of the cooperative education program at Quinsigamond Community College.

Analysis

This hypothesis was tested by frequency analyses of the responses to each item on the CEAS. The percent of subjects indicating a given level of agreement or disagreement with each statement was tabulated.

Findings

This hypothesis was partially supported. More than 50 percent of subjects agreed or strongly agreed with twelve of the fifteen statements. The percent agreeing or strongly agreeing with each statement was as follows: (1) helped to build positive self-esteem 73%; (2) helped to set career goals: 69%; (3) helped to better understand self: 46%; (4)

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provided valuable career information: 75%; (5) motivated to pursue professional goals: 73%; (6) increased appreciation for relationship between school, work and world of work: 77%; (7) helped to become a more responsible person: 50%; (8) gave some skills needed to be successful in profession: 76% (9) helped to better understand others: 43% (10) enhanced ability to communicate with others: 69% (11) increased awareness of professional options: 72%; (12) strengthened resolve to be successful professionally: 69%; (13) improved attitude toward life generally: 39%; (14) made a better person generally: 51%; (16) helped to refine and/or redefine career plans: 70%.

The largest percent of subjects disagreeing or strongly disagreeing with any one statement was 18% who disagreed that the program helped them to become more responsible persons. For that statement, 32% neither agreed or disagreed indicating neutrality about the program's benefits on those dimensions. Forty-five percent were neutral about whether the program helped them to better understand themselves. Forty-eight percent were neutral about whether the program helped them to better understand others. Fifty-seven percent were neutral about whether the program improved their attitude toward life generally. Thirty-four percent each were neutral about whether the program made them better persons and whether they were successful professionally because of their experience as cooperative education students at Quinsigamond.

These data are summarized in Table 5. All sixteen statements are listed and the percent distribution of responses relative to agreement or disagreement on the five point scale are indicated.

Hypotheses #2

The program does not receive a less than 3.0 rating on any perceived benefit measured by each of the sixteen items on Part II of the CEAS.

Analysis

This hypothesis was tested by descriptive analyses of the responses to each item on the CEAS. The means and standard deviations for each item on the CEAS were computed.

Findings

This hypothesis was fully supported. The average rating for each item was above 3.0. The lowest average rating of 3.2 was assigned to item 13 which addressed the benefit of the program in improving attitude toward life generally. The highest mean rating of 4.0 was assigned to item 6 which addressed the benefit of the program in increasing appreciation for the relationship between school work and the world of work.

The means and standard deviations for all sixteen items and the professional development and personal growth subscales are presented in Table 6.

Hypothesis #3

There are no significant gender differences on mean ratings of each perceived benefit of the cooperative

education program measured by each of the sixteen items on Part II of the CEAS and on the professional development and personal growth subscales.

Analysis

This hypothesis was tested by a series of one-way analysis of variance procedures with gender (male, female) as the independent variable and average ratings on the sixteen CEAS items and the two subscales as dependent variables. The level set for rejection of the null hypothesis was .05.

Findings

This null hypothesis was fully supported by the results. No significant gender differences were observed in the mean ratings of any of the sixteen items or on the mean ratings of either of the two subscales. These results are summarized in Table 7.

Hypothesis #4

There are no significant present-age differences on the mean ratings of each perceived benefit of the cooperative education program measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: professional development and personal growth.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures with age (20-25; 26-29; 30-35; 36-39; 40-45; 46-50; over 50) as the inedpendnent variable and average rating for each item and for each of

the two subscales as dependent variable. The level set for rejection of the null hypothesis was .05. Post hoc analyses using the scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .10 levels.

Findings

This null hypothesis was partially supported by the results. Significant age effects were observed only on mean ratings for item 16 which addressed the perceived benefits of the program on refining and redefining career plans. Post hoc analyses indicated that no two groups differed significantly at .01 or .05 but that subjects in age groups 26-29 and 40-45 differed significantly at the .10 level.

These results are summarized in Table 8.

Hypothesis #5

There are no significant differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth based on the age categories of students while they were enrolled in the cooperative education program at Quinsigamond Community College.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures with age (20-25; 26-29; 30-35; 36-39; 40-45; 46-50; over 50) as the independent

variable and average rating for each perceived benefit measured by each item of the CEAS and average rating for each subscales, as dependent variable. The confidence level set for rejection of the null hypothesis was .05. Post hoc analyses using the Scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .10 levels.

Findings

This null hypothesis was partially supported. Significant age category differences were observed on: item 8 which addressed the benefit of providing needed skills to be successful professionally; item 12 which addressed the benefit of providing the resolve to be professionally successful; item 15 which addressed the benefit of helping students to be successful generally in their professions; and the professional development subscale.

The Scheffe' post hoc analyses at .01 and .05 indicated that no two age groups were significantly different on any item. At .10 no two groups were significantly different on item 8 but were on items 12 and 15 and on professional development. On item 12 which measured resolve to be successful, subjects in the 20-25 age group (m=3.9) differed signficantly from subjects in the 36-39 age group (m=3.0) and subjects in the 46-50 range group (m-3.9) differed significantly from subjects in the 36-39 age group (m=3.0); on item 15 which measured professional skills benefit, subjects in the 30-35 age group (m=3.8) differed

significantly from subjects in the 36-39 age group (m=2.5); and on the professional development subscale, subjects in the 46-50 age group (m=40.6) differed significantly from subjects in the 36-39 age group (m=28.5).

These data are summarized in Table 9.

Hypothesis #6

There are no significant differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth, based on subjects enrollment status when they were cooperative education students at Quinsigamond Community College.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures, with enrollment status (full-time day student; part-time day student; full-time evening student; and part-time evening student) as the independent variable and average rating on each perceived benefit measured by each item on the CEAS and average rating on each subscale, as dependent variable. The confidence level set for rejection of the null hypothesis was .05. Post hoc analyses using the scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .10 confidence levels.

Findings

This null hypothesis was partially supported. Significant enrollment status differences were observed on: item 7 which measured perceived program benefit in terms of fostering responsibility; and item 10 which measured program benefit in terms of improving communication skills.

The post hoc analyses indicated no significant pairwise differences at the .01 or .05 confidence levels. However, significant pairwise differences were observed at the .10 confidence level. On item 7 full-time day students (m=3.7) differed significantly in their ratings from part-time evening students (m=3.0). On item 10, full-time day students (m=3.8) differed significantly in their ratings from part-time evening students (m=3.3).

These data are summarized in Table 10.

Hypothesis #7

There are no significant race differences on the mean ratings of each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures with race (black, white, hispanic) as the independent variable and average rating on each perceived benefit measured by each item on Part II of

the CEAS, and average rating on each subscales, as dependent variable. The confidence level set for rejection of the null hypothesis was .05. Post hoc analyses using the Scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .10 confidence levels.

Findings

This null hypothesis was partially supported. Significant race differences were observed on: item 8 which measured perceived program benefit in terms of providing the skills needed to be successful professionally; and on item 15 which measured perceived program benefit in terms of helping students to be generally successful professionally.

The post hoc analyses indicated no significant pairwise differences at the .10 confidence level. On item 8, black students (m=4.5) differed significantly from hispanic students (m=2.7) and white students (m=3.9) differed significantly from hispanic students (m=2.7). On item 15, black students (m=4.5) differed significantly from hispanic students (m=2.7).

These data are summarized in Table 11.

Hypothesis #8

There are no significant employment status differences on the mean ratings of each perceived benefits of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and on the mean

ratings of each of the two subscales: (1) professional development and (2) personal growth.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures with employment status (full-time; part-time; unemployed; seasonally employed) as the independent variable and average rating on each perceived benefit, measured by each item on Part II of the CEAS, and average rating on each subscale, as dependent variable. The confidence level set for rejection of the null hypothesis was .05. Post hoc analyses using the Scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .10 confidence levels.

Findings

This null hypothesis was partially supported. Significant employment status differences are observed on: item 5 which measured perceived program benefit in terms of motivating students to pairwise their professional goals; item 6 which measured perceived program benefit in terms of helping students appreciate the relationship between school work and the world of work; item 8 which measured perceived program benefit in terms of providing students with the needed skills to be successful in their professions; item 11 which measured perceived program benefit in terms of increasing students' awareness of professional options; item 14 which measured perceived program benefit in terms

of helping students become better persons generally; item 15 which measured perceived program benefit in terms of helping students be more successful generally in their professions; and on the professional development subscale.

The Scheffe' post hoc analyses indicated no significant pairwise differences at the .01 or .05 confidence levels. However, significant pairwise differences were observed at the .10 confidence level. On item 5, full-time employed subjects (m=3.9) and part-time employed subjects (m=4.1) differed significantly from unemployed subjects (m=2.9). On item 6, full-time employed subjects (m=4.1) and part-time employed subjects (m=4.2) differed significantly from unemployed subjects (m=3.2); on item 8, full-time employed subjects (m=4.0) and part-time employed subjects subjects (m=4.2) differed significantly from unemployed subjects (m=3.0); on item 14, full time employed subjects (m=3.6) differed significantly from unemployed subjects; on item 15, full-time employed subjects (m=3.6) and part-time employed subjects (m=3.5) differed significantly from unemployed subjects (m=2.5) and on the professional development subscale full-time employed subjects (m=34.6) and part-time employed subjects (m=35.2) differed significantly from unemployed subjects.

These results are summarized in Table 12.

Hypothesis #9

There are no significant differences on the mean ratings of each perceived benefit of the cooperative

education program as measured by each of the sixteen items on Part II of the CEAS and on the mean ratings of each of the two subscales: (1) professional development and (2) personal growth, based on subjects student status at the time of the survey.

Analysis

This null hypothesis was tested by a series of one-way analysis of variance procedures, with student status (not a student; part-time student; and full-time student) as the independent variable and average ratings on each perceived benefit of the cooperative education program as measured by each of the sixteen items on Part II of the CEAS and average ratings on each subscale as the dependent variable. The confidence level set for rejection of the null hypothesis was .05. Post hoc analysis using the Scheffe' method were performed to examine pairwise differences. Pairwise differences were examined at the .01, .05 and .01 confidence levels.

Findings

This null hypothesis was fully supported. No significant student status differences were observed on any perceived benefit measured by each of the sixteen items on part II of the CEAS or on either of the two subscales.

The results of the ANOVA are presented in Table 13.

Hypothesis #10

There is no significant difference on the mean ratings assigned by subjects to the professional development and personal growth subscales on the CEAS.

Analysis

This null hypothesis was tested by a t-test for correlated groups. The mean differences between the two subscales for the total sample was subjected to t-test analysis.

Findings

The null hypothesis was rejected. The results indicated that the mean difference (9.7) was significant, $t(128) = 24.36$, $p < .0001$.

Qualitative Analysis

Section III of the CEAS examined perceptions of qualitative aspects of program operations and functioning. Subjects were asked to indicate: (1) What they thought were: (a) strengths and (b) weaknesses of the program (2) suggestions for improving the program (3) additional comments:

Strengths and Weakness

a. Strengths:

-teachers

-course guidelines

-group meetings

-co-op staff support

-program organization

-ability to earn credits

-ability to earn money

-career alternatives

-setting goals

-real work experience

-self-confidence

-relationships of co-op to other course work

-employers receptiveness

-evaluation

b. Weaknesses:

-should not be mandatory

-not enough contact with students by staff

-no site visits

-credits not transferable

-not enough information on preparing for a job

-needs better screening of employers

-program could be longer

-should have bi-weekly group sessions

-program not well publicized

-more interaction between college and employers needed

-need more faculty support and input

-seminars on Saturday mornings needed

-need more speakers at seminars

-co-op begins only in second year

-not enough information given on flexibility of course of career options

-more emphasis was placed on entry level positions

Suggestions For Improvement

-institute group sessions to help provide training for each member of the group

-try to get more students involved

-need more qualified teachers

-make use of alumni co-op students

-program needs more personal contacts involving faculty, employers and students

-strengthen the importance of Saturday seminars

-more on-campus publicity

-should be part of a degree program and be of longer duration

-part-time evening students are already at a mid to upper management level, some emphasis should be made with this in mind

-each student should be required to have one field based course

-time management techniques should be included

-faculty advisors should spend more time with students

Additional Comments

-more focus needed on career opportunities

-the program was excellent

-job placement was good

-the program was very helpful

-the program helped me excel in my career and achieve my goals

-I now own my own company

-working and going to school at the same time is helpful to students

-difficult to communicate with instructors on a real world basis

-I gained self confidence

-the questionnaire might have asked if participant continued in same position or company

-co-op enhanced course work

-co-op program is good for an institution

-excellent way to acquire credits

-need more professors involved

-need more guest speakers

CHAPTER V

CONCLUSIONS

The study findings are discussed in this chapter. The chapter is divided into: Discussion, Implications, and Recommendations for Further Study.

Discussion

Generally, the cooperative education program at Quinsigamond Community College was perceived to be very beneficial to students on multiple dimensions as measured by the Cooperative Education Assessment Survey (CEAS). Only on two dimensions did less than 50% of the respondents agree that the program benefited them. These two dimensions were: (1) helping students to better understand themselves (46%) and helping students to better understand others (45%).

The reasons for a minority of the respondents perceiving these two areas as benefits of the program may be varied. First, respondents might not have viewed self-understanding and understanding of others as significant goals of the program. Second, as students, subjects may not have needed as much help in terms of their self-understanding and understanding of others as they did in other areas. Third, the structure of the program might have been designed more to impact other areas than these two. It would be useful to conduct further studies to examine these three possible explanations.

The lack of significant gender differences on benefit ratings seem to suggest that males and female students benefited equally from the program on each dimension. Thus, it would appear that there was no differential impact based on sex. This is particularly important in view of the fact that many vocational-type programs appear to be perceived as male oriented. The very perception of sex bias among females, regarding vocational type programs, including programs such as cooperative education programs, may tend to limit female participation, and influence their level and quality of involvement. The perceived benefits and overall assessment of these programs by females may therefore be generally less positive. However, in this study this was not the case.

The significantly higher rating assigned to item 16 which measured the benefit of the program in helping students define or redefine these goals by respondents in the 46-50 age group compared to respondents in the 26-29 age group, may reflect the fact that the younger subjects were probably just beginning their professional careers and may not have had as great a need to define or redefine their goals. However, the older subjects may have been in the process of career change or redefining their career goals. The fact that older subjects felt that they benefited significantly more than their younger counterparts on this dimension may be indicative of the long-term effects of the program.

Examination of differences among subjects based on their age while cooperative education students also revealed significant results subjects who were in the 20-25 and 46-50 age group rated the program significantly higher then subjects in the 36-39 age group with regard to the program's benefit in increasing resolve to be successful. This finding suggests that younger and older students of the program tended to increase their resolve to be successful more than students in the middle age group. The implication may be that middle age students may already possess strong resolve to be successful and may not be as highly influenced by the program or that their resolve to be successful is equal to younger and older subject to begin with and the program does not affect them as much. It would be useful as a follow-up study to examine age-group differences among co-op students regarding their resolve or motivation to be successful.

Further age group differences were found between subjects who were in age groups 30-35 and 36-39 when they were co-op students with regard to the program's benefit in enhancing professional skills. Subjects in the 30-35 age group rated this benefit significantly higher then subjects in the 36-39 age group. Similarly subjects in this 46-50 age group assigned significantly higher ratings than subjects in the 36-39 age group regarding the program's benefit in fostering professional development. These results suggest that students between 36 and 39 years of

age appeared to benefit less from the program than any others group on these dimensions. This suggests that students in this age group may have some unique characteristics that they bring to the program or some special needs that are not being met in the same way as the needs of other groups are.

The enrollment status differences indicate that full-time day students felt that they benefited significantly more than part-time evening students with regard to increasing their sense of responsibility and improving their communication skills. This finding suggests that more attention should probably be focuesd on the unique responsibility and communication needs of part-time students and that specific attitudes tailored to meet these needs be developed. Part-time evening students are usually older, employed, more experienced and often more self-motivated than their full-time day counterparts. Many part-time evening students also have family responsibilities. These factors influence not only the thinking, attitudes and approach of many of part-time evening students but also their needs and expectations of college programs. The cooperative education program at Quinsigamond may be well advised to conduct a needs assessment of its various constituencies similar to the type of market segmentation studies done by major corporations. In this way, the responsibility and

communications benefits of the program could be maximized for all groups.

Significant race differences were observed on the ratings assigned to two perceived benefits. Black and white subjects assigned significantly higher ratings than hispanic subjects to the program's perceived benefits in providing them with skills necessary to be successful professionally. Black subjects also assigned significantly higher ratings than hispanic subjects to the program's perceived benefits in helping them to be generally successful professionally. The validity of these findings may be in question due to the very small number of black and hispanic subjects in the sample. These small numbers of blacks and hispanics when compared to the overwhelming majority of white subjects make it difficult to draw any valuable conclusions from the results. However, this researcher is willing to suggest that it may be valuable to examine race differences on perceived benefits of the program using a sample that includes a much larger percentage of black and hispanic subjects.

The greatest number of significant differences were observed when employment status was the independent variable. The results showed that full-time and part-time employed subjects assigned significantly higher ratings than unemployed subjects to the program with regard to: (1) motivation to pursue professional goals; (2) helping to appreciate the relationship between school and world of

work; (3) providing needed skills to be professionally successful; (4) increasing awareness of professional options; (5) helping students become better individuals generally; (6) helping students be more successful generally in their professions (7) enhancing professional development. These results indicate that unemployed subjects have a significantly less positive view of the program than their employed colleagues. The unclear issue is whether they view the program less positively because they are unemployed or whether they are unemployed because the program did not help them as much as it did others. This is an issue that should be further investigated.

Implications

The results generally attest to the valuable contribution of the cooperative education program to the professional development and personal growth of its students. The program appears to benefit students more with regard to professional development than it does with regard to personal growth. The implication is that if there is an expressed mission to enhance both professional development and personal growth, a better balance may have to be struck. It is clear that subjects perceive the professional development benefits much more strongly than they perceive the personal growth benefits.

There are also strong indications of differential benefits of the program based on personal characteristics of students such as age, race, enrollment status and

employment status. The implication for these differential benefits is that a more molecular or differentiated approach with as individualistic a program design as possible be developed.

Recommendations for Further Study

The following are being offered as suggestions for further investigation.

1. Race differences be examined with a much larger number of black and hispanic subjects included in the sample.
2. Particular attention be focused on the needs of students in the 36-39 age group to determine whether these needs are being adequately addressed by the program.
3. An examination of the different needs between full-time day and part-time evening students be conducted.
4. A follow-up study be undertaken among unemployed alumni of the program to assess what, if any, relationship exists between weaknesses in the program and their unemployed status.

Table 1

Demographic Profile of Pilot Study Sample

Gender	
Male	7 (50%)
Female	7 (50%)
Age At Time of Survey	
20-25	5 (37%)
26-29	3 (21%)
30-35	1 (7%)
36-39	2 (14%)
40-45	1 (7%)
46-50	1 (7%)
Over 50	1 (7%)
Age When A Cooperative Education Student	
20-25	6 (46%)
26-29	1 (8%)
30-35	1 (8%)
36-39	2 (15%)
40-45	2 (15%)
46-50	1 (8%)
Enrollment Status When a Cooperative Education Student	
Full-Time Day	10 (71%)
Part-Time Day	2 (14%)
Part-Time Evening	2 (14%)
Race	
Black	1 (7%)
white	13 (93%)
Employment	
Full-Time	9 (64%)
Part-Time	3 (21%0
Unemployed	2 (15%)

Table 2
Mean Ratings and Standard Deviations on CEAS Items for Pilot Study

	N	M	SD
1. The cooperative education program at Quinsigamond helped me build positive self-esteem.	14	4.1	.48
2. The cooperative education program at Quinsigamond helped me set career goals.	14	4.1	.62
3. The cooperative education program at Quinsigamond helped me to understand myself better.	14	3.9	.83
4. The cooperative education program at Quinsigamond provided me with valuable career information	14	3.9	.95
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	14	3.9	1.2
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work.	14	3.9	1.3
7. The cooperative education Program at Quinsigamond helped me to become a more responsible person.	14	3.6	1.1
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	14	3.6	1.0
9. The cooperative education program at Quinsigamond helped me to better understand others.	14	3.9	.62
10. The cooperative education program at Quinsigamond enchanced my ability to communicate with others.	14	4.3	.61

Table 2 continued

Table 2 continued

	N	M	SD
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	14	4.4	.75
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	14	3.9	1.1
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	14	3.8	1.0
14. Generally, I am a better person of my experience as a cooperative education student.	14	3.6	.93
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	14	3.4	1.0
Professional Development	14	31.0	5.9
Personal Growth	14	27.4	4.6

Table 3
Percent Distribution of Agreement With CEAS Statements Among Pilot Sample

	SD	D	NA	A	SA
1. The cooperative education program at Quinsigamond helped me build positive self-esteem.	1 -	2 -	3 (7)	4 (79)	5 (79
2. The cooperative education program at Quinsigamond helped me set career goals.	1 - 1	2 - 2	3 (14) 3	4 (64) 4	5 (21 5
3. The cooperative education program at Quinsigamond helped me to understand myself better.	1 -	2 (7)	3 (14)	4 (57)	5 (21
4. The cooperative education program at Quinsigamond provided me with valuable career information.	1 -	2 (7)	3 (29)	4 (360	5 (29
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	1 (7)	2 (7)	3 (14)	4 (36)	5 (36
6. The cooperative education program at Qinsigamond incrased my appreciation for the relationship between school work and the world of work.	1 (7)	2 (7)	3 (21)	4 (14)	5 (50
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	1 (7)	2 (7)	3 (14)	4 (50)	5 (21
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	1 -	2 (14)	3 (36)	4 (29)	5 (21
9. The cooperative education program at Quinsigamond helped me to better understand others.	1 -	2 -	3 (21)	4 (64)	5 (14
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	1 -	2 -	3 (7)	4 (57)	5 (36
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	1 -	2 -	3 (14)	4 (36)	5 (50

Table 3 continued

Table 3 continued

	SD	D	NA	A	SA
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professional.	1 (7)	2 -	3 (14)	4 (50)	5 (29
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	1 -	2 (7)	3 (36)	4 (29)	5 (29
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	1 -	2 (7)	3 (43)	4 (29)	5 (21
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	1 -	2 (14)	3 (50)	4 (14)	5 (21

Note: ( ) indicates percent based on n of 14
- indicates zero percent
SD=Strongly Disagree; D=Disagree; N=Neither Agree or Disagre
A=Agree; SA=Strongly Agree

Table 4

Demographic Profile Sample for Main Study

Gender

Male	20 (30%)
Female	92 (70%

Age At Time of Survey

20-25	41 (31%)
26-29	28 (21%)
30-35	15 (11%)
36-39	12 (9%)
40-45	12 (9%)
46-50	16 (12%)
Over 50	8 (6%)

Agen When a Student

Less than 20	11 (8%)
20-25	58 (44%)
26-29	12 (9%)
30-39	14 (11%)
36-39	14 (11%)
40-45	13 (10%)
46-50	5 (4%)
Over 50	5 (4%)

Enrollment Status When a Cooperative Education Student

Full-Time Day	86 (65%)
Part-Time Day	12 (9%)
Full-Time Evening	7 (5%)
Part-Time Evening	4 (3%)

Race

Black	4 (3%)
White	125 ((95%)
Hispanic	3 (2%)

Employment Status

Employed Full-Time	97 (74%)
Employed Part-Time	17 (13%)
Unemployed	13 (10%)
Seasonally Employed	4 (3%)

Current Student Status

Not A Student	94 (71%)
Part-Time Student	30 (23%)
Full-Time Student	8 (6%)

Table 5
Percent of Subjects in the Main Study Agreeing or Disagreeing with Each Statement on The CEAS

	SD	D	NA	A	SA
1. The cooperative education program at Quinsigamond helped me build positive self-esteem. n=132	1 (5)	2 (4)	3 (18)	4 (53)	5 (20
2. The cooperative education program at Quinsigamond helped me set career goals. n=132	1 (3)	2 (8)	3 (21)	4 (49)	5 (20
3. The cooperative education program at Quinsigamond helped me to understand myself better. n=132	1 (4)	2 (6)	3 (45)	4 (33)	5 (13
4. The cooperative education program at Quinsigamond provided me with valuable career information. n=132	1 (5)	2 (5)	3 (16)	4 (50)	5 (25
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals. n=132	1 (5)	2 (2)	3 (21)	4 (49)	5 (24
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work. n=132	1 (4)	2 (5)	3 (14)	4 (42)	5 (35
7. The cooperative education program at Quinsigamond helped me to become a more responsible person. n=132	1 (5)	2 (13)	3 (32)	4 (28)	5 (22
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession. n=132	1 (5)	2 (5)	3 (14)	4 (46)	5 (30

Table 5 continued

	SD	D	NA	A	SA
9. The cooperative education program at Qinsigamond helped me to better understand others. n=131	1 (3)	2 (7)	3 (48)	4 (31)	5 (12
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others. n=131	1 (4)	2 (6)	3 (21)	4 (56)	5 (13
11. The cooperative education program at Quinsigamond increased my awareness of professional options. n=131	1 (2)	2 (8)	3 (17)	4 (54)	5 (18
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally. n=131	1 (3)	2 (5)	3 (24)	4 47)	5 (22)
13. The cooperative education program at Quinsigamond improved my attitude toward life generally. n=131	1 (5)	2 (11)	3 (57)	4 (17)	5 (1
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond. n=129	1 (4)	2 (11)	3 (34)	4 (35)	5 (1
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond. n=130	1 (6)	2 (9)	3 (34)	4 (38)	5 (13
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans. n=131	1 (3)	2 (6)	3 (21)	4 (48)	5 (22

Note: () indicates percent of subjects
Percentages may not add up to 100% due to rounding

Table 6
Descriptive Data for Total Sample on the Sixteen CEAS Items and the Professional Development and Personal Growth Subscales

	N	M	SD
1. The cooperative education program at Quinsigamond helped me build positive self-esteem.	132	3.8	.9
2. The cooperative education program at Quinsigamond helped me set career goals.	132	3.7	.9
3. The cooperative education program at Quinsigamond helped me to understand myself better.	132	3.4	.9
4. The cooperative education program at Quinsigamond provided me with valuable career information.	132	3.9	.9
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	132	3.8	.9
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work.	132	4.0	1.0
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	132	3.5	1.1
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	132	3.9	1.0
9. The cooperative education program at Quinsigamond helped me to better understand others.	131	3.4	.8
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	131	3.7	.9

Table 6 continued

Table 6 continued

	N	M	SD
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	131	3.8	.9
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	131	3.8	.9
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	131	3.2	.9
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	129	3.5	1.0
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	130	3.4	1.0
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans.	131	3.8	.9
Professional Development	130	34.1	6.7
Personal Growth	129	24.4	5.3

Table 7
Summary of ANOVA for Gender Effects

	Male		Female	
	N	M (SD)	N	M (SD)
1. The cooperative education program at Quinsigamond helped me build positive self-esteem.	40	3.6 (1.1)	92	3.8 (.95)
2. The cooperative education program at Quinsigamond helped me set career goals.	40	3.6 (1.1)	92	3.8 (.92)
3. The cooperative education program at Quinsigamond helped me to understand myself better.	40	3.8 (.88)	92	3.5 (.94)
4. The cooperative education program at Quinsigamond provided me with valuable career information.	40	3.7 (1.1)	92	4.0 (.91)
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	40	3.9 (1.1)	92	3.8 (.89)
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work.	40	4.0 (1.1)	92	4.0 (1.0)
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	40	3.5 (1.2)	92	3.5 (1.1)
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	40	3.9 (1.2)	92	4.0 (.97)
9. The cooperative education program at Quinsigamond helped me to better understand others.	39	3.4 (.82)	92	3.4 (.93)
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	39	3.5 (.910	92	3.7 (.91)

Table 7 continued

Table 7 continued

	Male		Female	
	N	M (SD)	N	M (SD)
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	39	3.7 (.89)	92	3.8 (.94)
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	39	3.7 (1.1)	92	3.8 (.86)
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	39	3.0 (.79)	92	3.3 (.99)
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	37	3.5 (.87)	92	3.5 (1.1)
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	38	3.3 (1.1)	92	3.5 (1.0)
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans.	39	3.6 (1.1)	92	3.9 (.88)
Professional Development	38	33.0 (7.5)	92	33.0 (6.3)
Personal Growth	37	23.5 (4.9)	92	24.9 (5.5)

Table 8
Summary of ANOVA for Present-Age Affects

	20 to 25			26 to 29			30 to 35			36 to 39			40 to 45		
	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)
1. Self- Esteem	41	3.9	(.65)	28	3.8	(1.1)	15	3.8	(.77)	12	3.5	(1.0)	12	3.6	(1.3)
2. Career goals	41	3.9	(.85)	28	3.9	(1.1)	15	3.7	(.96)	12	3.3	(.87)	12	3.1	(.79)
3. Self-Understanding	41	3.5	(.75)	28	3.4	(.99)	15	3.3	(.59)	12	3.3	(.98)	12	3.4	(.90)
4. Career Information	41	3.9	(.97)	28	4.0	(.92)	15	3.7	(1.1)	12	3.9	(1.2)	12	3.5	(1.0)
5. Professional Goals	41	4.1	(.75)	28	3.9	(1.1)	15	3.8	(1.0)	12	3.7	(.98)	12	3.2	(.72)
6. Appreciation for Work	41	4.1	(.84)	28	4.3	(.98)	15	3.9	(1.0)	12	3.7	(1.2)	12	3.3	(1.2)
7. Reasonable Person	41	3.8	(1.1)	28	3.7	(1.2)	15	3.4	(.99)	12	2.8	(1.0)	12	3.3	(1.2)
8. Needed Skills	41	4.0	(.96)	28	4.0	(1.1)	15	4.3	(.62)	12	3.8	(1.0)	12	3.3	(1.2)
9. Understand Others	41	3.4	(.73)	28	3.5	(.96)	14	3.3	(.61)	12	3.2	(1.0	12	3.4	(.79)
10. Communication	41	3.8	(.66)	28	3.8	(1.0)	14	3.8	(.42)	12	3.4	(1.2)	12	3.5	(1.1)
11. Professional Options	41	3.9	(.74)	28	3.8	(1.1)	14	3.7	(.83)	12	3.8	(.75)	12	3.1	(.90)
12. Resolve to be Successful	41	3.9	(.75)	28	4.0	(.88)	14	3.7	(.99)	12	3.5	(1.3)	12	3.2	(.58)

Table 8 continued

Table 8 continued

	46 to 50			Over 50			F	Prob
	N	M	(SD)	N	M	(SD)		
1. Self- Esteem	16	4.1	(.85)	8	3.3	(1.7)	.92	.48
2. Career Goals	16	4.0	(.82)	8	3.6	(1.3)	2.1	.06
3. Self-Understanding	16	3.8	(1.0)	8	3.2	(1.6)	.74	.62
4. Career Information	16	4.0	(1.0)	8	3.8	(1.3)	.43	.86
5. Professional Goals	16	3.8	(1.1)	8	3.9	(1.2)	1.5	.17
6. Appreciation for Work	16	4.2	(.83	8	3.6	(1.3)	1.9	.08
7. Reasonable Person	16	3.3	(1.0)	8	3.3	(1.4)	1.6	.16
8. Needed Skills	16	3.7	(1.1)	8	4.4	(1.1)	1.6	.17
9. Understand Others	16	3.8	(.83)	8	2.9	(1.6)	1.3	.24
10. Communication	16	3.8	(.72)	8	3.1	(1.6)	.94	.47
11. Professional Options	16	4.0	(.97)	8	3.8	(1.3)	1.5	.19
12. Resolve to be Successful	16	4.1	(1.1)	8	3.9	(1.3)	1.6	.16

Table 8 continued

Table 8 continued

	46 to 50 N	M	(SD)	Over 50 N	M	(SD)	F	Prob
13. Attitude Toward Life	16	3.5	(1.2)	8	2.9	(1.2)	1.0	.43
14. Better Person	16	3.9	(.93)	8	3.5	(1.3)	1.4	.20
15. Professional Success	16	3.4	(1.0)	8	3.9	(1.4)	1.5	.19
16. Career Plans	16	3.8	(.98)	8	4.1	(1.4)	2.8	.01
Professional	16	34.9	(7.1)	8	34.9	(10.9)	1.9	.08
Personal Growth	16	26.1	(5.0)	8	22.0	(9.5)	1.1	.37

Table 8 continued

	46 to 50 N	M	(SD)	Over 50 N	M	(SD)	F	Prob
13. Attitude Toward Life	16	3.5	(1.2)	8	2.9	(1.2)	1.0	.43
14. Better Person	16	3.9	(.93)	8	3.5	(1.3)	1.4	.20
15. Professional Success	16	3.4	(1.0)	8	3.9	(1.4)	1.5	.19
16. Career Plans	16	3.8	(.98)	8	4.1	(1.4)	2.8	.01
Professional	16	34.9	(7.1)	8	34.9	(10.9)	1.9	.08
Personal Growth	16	26.1	(5.0)	8	22.0	(9.5)	1.1	.37

Table 9
Summary of Anova for Age (at time of enrollment) Effects

	20 to 25			26 to 29			30 to 35			36 to 39			40 to 45		
	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)
1. Self- Esteem	58	3.8	(.89)	12	3.9	(.79)	14	3.9	(.77)	14	3.1	(1.4)	13	3.9	(.86)
2. Career goals	58	3.8	(1.0)	12	3.8	(.83)	14	3.6	(.63)	14	3.1	(1.1)	13	3.6	(.77)
3. Self-Understanding	58	3.4	(.88)	12	3.3	(.78)	14	3.4	(.76)	14	3.4	(1.3)	13	3.4	(.96)
4. Career Information	58	3.9	(1.0)	12	3.9	(1.2)	14	3.9	(.83)	14	3.4	(1.2)	13	3.8	(.90)
5. Professional Goals	58	4.0	(.90)	12	3.8	(1.1)	14	3.9	(.62)	14	3.4	(.93)	13	3.5	(1.2)
6. Appreciation for Work	58	4.1	(.93	12	3.9	(.90)	14	3.9	(.83)	14	3.2	(1.4)	13	4.0	(.82)
7. Reasonable Person	58	3.7	(1.1)	12	3.6	(1.0)	14	3.1	(1.0)	14	2.9	(1.4)	13	3.3	(.95)
8. Needed Skills	58	3.9	(1.0)	12	4.3	(.65)	14	3.1	(1.3)	13	3.1	(1.3)	13	3.6	(1.1)
9. Understand Others	58	3.4	(.84)	11	3.5	(.69)	14	3.2	(.80)	14	3.1	(1.2)	13	3.6	(.77)
10. Communication	58	3.8	(.83)	11	3.6	(.67)	14	3.5	(.85)	14	3.2	(1.3)	13	3.8	(.83)
11. Professional Options	58	3.9	(.91)	11	3.6	(.92)	14	3.9	(.83)	14	3.4	(.84)	13	3.5	(1.1)
12. Resolve to be Successful	58	3.9	(.80)	11	3.8	(1.2)	14	3.9	(1.1)	14	3.0	(.88)	13	3.9	(.95)

Table 9 continued

Table 9 continued

	46 to 50			Over 50			F	Prob
	N	M	(SD)	N	M	(SD)		
1. Self-Esteem	16	4.1	(.85)	8	3.3	(1.7)	.92	.48
2. Career Goals	16	4.0	(.82)	8	3.6	(1.3)	2.1	.06
3. Self-Understanding	16	3.8	(1.0)	8	3.2	(1.6)	.74	.62
4. Career Information	16	4.0	(1.0)	8	3.8	(1.3)	.43	.86
5. Professional Goals	16	3.8	(1.1)	8	3.9	(1.2)	1.5	.17
6. Appreciation for Work	16	4.2	(.83	8	3.6	(1.3)	1.9	.08
7. Reasonable Person	16	3.3	(1.0)	8	3.3	(1.4)	1.6	.16
8. Needed Skills	16	3.7	(1.1)	8	4.4	(1.1)	1.6	.17
9. Understand Others	16	3.8	(.83)	8	2.9	(1.6)	1.3	.24
10. Communication	16	3.8	(.72)	8	3.1	(1.6)	.94	.47
11. Professional Options	16	4.0	(.97)	8	3.8	(1.3)	1.5	.19
12. Resolve to be Successful	16	4.1	(1.1)	8	3.9	(1.3)	1.6	.16

Table 9 continued

Table 9 continued

	20 to 25			26 to 29			30 to 35			36 to 39			40 to 45		
	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)
13. Attitude Toward Life	58	3.2	(.91)	11	2.9	(1.0)	14	3.6	(.85)	14	2.8	(.70)	13	3.4	(1.1)
14. Better Person	57	3.6	(.91)	11	3.5	(.93)	14	3.2	(1.2)	14	3.1	(1.3)	13	3.8	(.99)
15. Professional Success	58	3.5	(1.0)	11	3.5	(.93)	14	3.8	(.89)	14	2.5	(1.0)	13	3.3	(1.0)
16. Career Plans	58	3.9	(1.0)	11	3.6	(1.0)	14	4.1	(.53)	14	3.4	(.94)	13	3.5	(.97)
Professional	58	34.9	(6.5)	11	33.9	(5.5)	14	35.4	(4.3)	14	28.5	(7.0)	13	32.7	(6.8)
Personal Growth	57	24.9	(4.9)	11	24.1	(3.8)	14	23.9	(5.2)	14	21.6	(6.9)	13	25.2	(4.9)

Table 9 continued

Table 9 continued

	46 to 50			Over 50			F	Prob
	N	M	(SD)	N	M	(SD)		
13. Attitude Toward Life	16	3.5	(1.2)	8	2.9	(1.2)	1.0	.43
14. Better Person	16	3.9	(.93)	8	3.5	(1.3)	1.4	.20
15. Professional Success	16	3.4	(1.0)	8	3.9	(1.4)	1.5	.19
16. Career Plans	16	3.8	(.98)	8	4.1	(1.4)	2.8	.01
Professional	16	34.9	(7.1)	8	34.9	(10.9)	1.9	.08
Personal Growth	16	26.1	(5.0)	8	22.0	(9.5)	1.1	.37

Table 10
Summary of ANOVA for Enrollment Status Effects

	Full-Time Day Student			Part-Time Day Student			Full-Time Evening Student			Part-Time Evening Student			F	Prob
	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)		
1. Self-Esteem	86	3.9	(.88)	12	3.9	(1.3)	7	3.6	(1.3)	23	3.4	(1.0)	1.7	.18
2. Career Goals	86	3.8	(.97)	12	3.6	(1.2)	7	3.4	(1.3)	23	3.6	(.73)	.82	.49
3. Self-Understanding	86	3.5	(.89)	12	3.3	(.87)	7	3.3	(1.3)	23	3.3	(.75)	.75	.53
4. Career Information	86	4.0	(.95)	12	3.8	(1.1)	7	3.4	(1.4)	23	3.5	(.95)	2.1	.10
5. Professional Goals	86	3.9	(.90)	12	3.7	(.98)	7	3.6	(1.3)	23	3.6	(1.1)	.99	.40
6. Appreciation for Work	86	4.1	(.96)	12	3.8	(1.2)	7	3.7	(1.3)	23	3.6	(1.0)	2.0	.12
7. Responsible Person	86	3.7	(1.1)	12	3.3	(1.2)	7	3.1	(1.2)	23	3.0	(.93)	2.7	.05*
8. Needed Skills	86	4.0	(1.0)	12	3.9	(1.2)	7	3.4	(1.3)	23	3.7	(1.0)	1.0	.39
9. Understanding Others	85	3.5	(.88)	12	3.2	(.83)	7	3.9	(1.1)	23	3.2	(.74)	1.4	.24
10. Communication	85	3.8	(.86)	12	3.3	(.89)	7	3.9	(1.5)	23	3.3	(.88)	2.9	.04*
11. Professional Options	85	3.9	(.89)	12	3.7	(.65)	7	3.3	(1.3)	23	3.4	(.99)	2.3	.08
12. Resolve to be Successful	85	3.9	(.84)	12	3.8	(1.2)	7	3.9	(1.3)	23	3.5	(.99)	1.1	.36

Table 1 continued

Table 10 continued

	Full-Time Day Student			Part-Time Day Student			Full-Time Evening Student			Part-Time Evening Student			F	Prob
	N	M	(SD)	N	M	(SD)	N	M	(SD)	N	M	(SD)		
13. Attitude To Life	85	3.3	(.97)	12	3.1	(.51)	7	3.1	(.90)	23	3.0	(.18)	.52	.67
14. Better Person	85	3.6	(.99)	12	3.3	(.98)	7	3.4	(.98)	23	3.2	(1.0)	1.2	.31
15. Professional Success	84	3.5	(1.0)	12	3.6	(1.2)	7	3.3	(1.3)	23	3.2	(.89)	.74	.53
16. Career Plans	85	3.8	(.95)	12	4.0	(.74)	7	3.7	(1.3)	23	3.4	(1.0)	1.4	.26
Professional Development	84	34.9	(6.3)	12	33.8	(7.5)	7	31.2	(11.1)	23	31.5	(5.9)	1.9	.14
Personal Growth	83	25.2	(5.0)	12	23.4	(5.4)	7	24.3	(7.6)	23	22.5	(4.7)	1.9	.14

Note: *indicates significant differences

Table 11
Summary of ANOVA for Race Effects

	Black			White			Hispanic				
	N	M	(SD)	N	M	(SD)	N	M	(SD)	F	Prob
1. The cooperative education program Quinsigamond helped me build positive self-esteem. n=132	4	4.5	(.50)	125	3.8	(1.0)	3	4.0	(0.0)	1.2	.30
2. The cooperative education program at Quinsigamond helped me set career goals. n=132	4	4.5	(.50)	125	3.7	(.97)	3	3.7	(.50)	1.3	.20
3. The cooperative education program at Quinsigamond helped me to understand myself better. n=132	4	4.5	(.50)	125	3.4	(.93)	3	3.7	(.50)	2.9	.06
4. The cooperative education program at Quinsigamond provided me with valuable career information. n=132	4	4.3	(.50)	125	3.9	(1.0)	3	3.7	(.58)	.36	.70
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals. n=132	4	3.8	(.50)	125	3.9	(.90)	3	3.3	(.50)	.46	.63
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work. n=132	4	4.5	(.50)	125	4.0	(1.0)	3	3.0	(1.7)	2.0	.14
7. The cooperative education program at Quinsigamond helped me to become a more responsible person. n=132	4	4.3	(1.5)	125	3.4	(1.1)	3	4.0	(1.0)	1.3	.28
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession. n=132	4	4.5	(.58)	125	3.9	(1.0)	3	2.7	(1.5)	3.0	.05*

Table 13 continued

Table 11 continued

	Black			White			Hispanic			F	Prob
	N	M	(SD)	N	M	(SD)	N	M	(SD)		
9. The cooperative education program at Quinsigamond helped me to better understand others. n=131	4	4.3	(.50)	124	3.4	(.90)	3	4.0	(.00)	2.7	.07
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others. n=131	4	3.8	(.50)	124	3.7	(.93)	3	4.3	(.50)	.00	.45
11. The cooperative education program at Quinsigamond increased my awareness of professional options. n=131	4	4.5	(.50)	124	3.8	(.93)	3	3.7	(.50)	1.3	.20
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally. n=131	4	4.8	(.50)	124	3.8	(.94)	3	3.7	(.50)	2.2	.12
13. The cooperative education program at Quinsigamond improved my attitude toward life generally. n=131	4	4.0	(.82)	124	3.2	(.94)	3	3.3	(.50)	1.6	.21
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond. n=129	4	4.3	(.50)	122	3.5	(1.0)	3	3.7	(1.2)	1.2	.30
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond. n=130	4	4.5	(.50)	123	3.4	(1.0)	3	2.7	(1.5)	3.1	.05*
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans. n=131	4	4.5	(.50)	124	3.8	(1.0)	3	4.0			
	(3)	(6)	(21)	(40)		(22).					

Note: () indicates percent of subjects

Table 12
Summary of ANOVA for Employment Status Effects

	Employed Full-Time N	M	(SD)	Employed Part-Time N	M	(SD)	Un-Employed N	M	(SD)	Seasonally Employed N	M	(SD)	F	Prob
1. The cooperative education program Quinsigamond helped me build positive self-esteem.	97	3.8	(.87)	17	3.8	(.75)	13	3.5	(1.7)	4	3.8	(.99)	.66	.58
2. The cooperative education program at Quinsigamond helped me set career goals.	97	3.8	(.92)	17	3.9	(.56)	13	3.2	(1.5)	4	4.0	(.82)	2.0	.11
3. The cooperative education program at Quinsigamond helped me to understand myself better.	97	3.5	(.89)	17	3.6	(.79)	13	3.0	(1.4)	4	3.5	(.58)	1.3	.28
4. The cooperative education program Quinsigamond provided me with valuable career information	97	3.9	(.91)	17	4.1	(.86)	13	3.3	(1.4)	4	3.5	(1.7)	2.0	.12
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	97	3.9	(.91)	17	4.1	(.56)	13	2.9	(1.4)	4	4.3	(.50)	5.1.	0002
6. The cooperative education program at Quinsigamond increased appreciation for the relationship between school work and the world of work.	97	4.1	(.93)	17	4.2	(.73)	13	3.2	(1.6)	4	4.0	(.82)	3.6	.02*
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	97	3.5	(1.0)	17	3.4	(1.2)	13	3.3	(1.5)	4	3.0	(1.6)	.41	.75*
8. The cooperative education program at Quinsigamond gave some of the skills I needed to be successful in my profession.	97	4.0	(.88)	17	4.2	(.66)	13	3.0	(1.6)	4	3.5	(1.7)	5.0	.003*

Table 12 continued

Table 12 continued

	Employed Full-Time N	M	(SD)	Employed Part-Time N	M	(SD)	Un-Employed N	M	(SD)	Seasonally Employed			F	Prob
9. The cooperative education program at Quinsigamond helped me to better understand others.	96	3.4	(.81)	17	3.6	(.79)	13	3.2	(1.5)	4	3.5	(.58)	.81	.49
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	96	3.7	(.85)	17	3.9	(.49)	13	3.3	(1.5)	4	4.0	(.82)	1.2	.32
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	96	3.8	(.87)	17	4.1	(.70)	13	3.2	(1.3)	4	3.5	(1.0)	2.5	.05
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	96	3.8	(.92)	17	4.1	(.66)	13	3.3	(1.4)	4	3.8	(.50)	1.7	.18
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	96	3.3	(.93)	17	3.1	(.83)	13	2.9	(.86)	4	2.3	(1.5)	2.2	.09
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	96	3.6	(.93)	17	3.5	(.87)	13	2.8	(1.4)	4	2.5	(1.3)	4.3	.006
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	95	3.6	(.92)	17	3.5	(1.0)	13	2.5	(1.3)	4	2.5	(1.3)	5.3	.001
16. The cooperative education Quinsigamond helped me refine and/or redefine my career plans.	96	3.8	(.94)	17	4.0	(.61)	13	3.6	(1.2)	4	3.5	(1.7)	.54	.66
Professional Development	95	34.6	(6.0)	17	36.2	(4.3)	13	28.2	(10.7)	4	32.5	(6.6)	4.4	.01
Personal Growth	94	24.7	(4.8)	17	24.9	(4.0)	13	21.9	(9.0)	4	22.2	(5.0)	1.3	.27

Table 13
Summary of ANOVA for Current Student Status Effects

	Non-Student			Part-Time Student			Full-Time Student				
	N	M	(SD)	N	M	(SD)	N	M	(SD)	F	Prob
1. The cooperative education program Quinsigamond helped me build positive self-esteem.	94	3.8	(1.0)	30	3.6	(.81)	8	4.3	(.71)	1.3	.29
2. The cooperative education program at Quinsigamond helped me set career goals.	94	3.8	(1.0)	30	3.6	(.77)	8	4.3	(.71)	1.6	.20
3. The cooperative education program at Quinsigamond helped me to understand myself better.	94	3.5	(.96)	30	3.3	(.84)	8	3.8	(.89)	.66	.52
4. The cooperative education program at Quinsigamond provided me with valuable career information.	94	3.9	(1.0)	3.0	3.5	(.97)	8	4.3	(.71)	2.6	.08
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals.	94	3.9	(.96)	30	3.7	(.99)	8	4.4	(.74)	1.6	.21
6. The cooperative education program at Quinsigamond increased my appreciation for the relationship between school work and the world of work.	94	4.0	(1.1)	30	3.8	(.83)	8	4.4	(.74)	.90	.30
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	94	3.5	(1.2)	30	3.3	(.99)	8	4.1	(.99)	1.7	.19
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	94	3.9	(1.1)	30	3.8	(.87)	8	4.4	(.74)	.89	.41

Table 13 continued

Table 13 continued

	Non-Student			Part-Time Student			Full-Time Student				
	N	M	(SD)	N	M	(SD)	N	M	(SD)	F	Prob
9. The cooperative education program at Quinsigamond helped me to better understand others.	94	3.4	(.95)	30	3.3	(.79)	7	3.4	(.53)	.26	.77
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	94	3.7	(1.0)	30	3.7	(.71)	7	3.9	(.38)	.14	.87
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	94	3.8	(.95)	30	3.5	(.86)	7	4.3	(4.9)	2.6	.08
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	94	3.8	(1.0)	30	3.8	(.77)	7	4.0	(.58)	.18	.84
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	94	3.3	(.98)	30	3.0	(.87)	7	3.3	(.49)	.87	.42
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	92	3.5	(1.1)	30	3.4	(.97)	7	3.6	(.79)	.16	.85
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	93	3.5	(1.1)	30	3.3	(.92)	7	3.4	(.79)	.15.	.86
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans.	94	3.9	(1.0)	30	3.6	(.77)	7	4.0	(.58)	.94	.39
Professional Development	93	34.4	(7.2)	30	32.7	(5.2)	7	36.9	(4.8)	1.4	.26
Personal Growth	92	24.6	(5.7)	30	23.6	(4.6)	7	25.9	(2.3)	.62	.54

Table 14

Summary of Test of Hypotheses

Hypothesis #1	Partially Supported
Hypothesis #2	Fully Supported
Hypothesis #3	Fully Supported
Hypothesis #4	Partially Supported
Hypothesis #5	Partially Supported
Hypothesis #6	Partially Supported
Hypothesis #7	Partially Supported
Hypothesis #8	Partially Supported
Hypothesis #9	Fully Supported
Hypothesis 10	Rejected

APPENDICES

APPENDIX A

COOPERATIVE EDUCATION ASSESSMENT SCALE (CEAS)

This questionnaire has been designed to solicit your impressions regarding the benefits of cooperative education experiences. You have been identified as having been a cooperative education student at Quinsigamond Community College. Please respond to the following questions as best you can. Thank you for taking the time to respond.

A. Background Information

Do not write in this column

1. Gender (Check one) | 1 ____

Male ____ Female ____

2. Present Age: (Check one) | 2 ____

20-25 ____
26-29 ____
30-35 ____
40-45 ____
46-50 ____
Over 50 ____

3. Age when you graduated from Quinsigamond (check one) | 3 ____

20-25 ____
26-29 ____
30-35 ____
36-39 ____
40-45 ____
46-50 ____
Over 50 ____

4. What was your enrollment status at Quinsigamond (check one) | 4 ____

Full time day student ____
Part time day student ____
Full time evening student ____
Part time evening student ____

5. What is your race (check one) | 5 ____

Black ____
White ____
Hispanic ____
Native American ____
Asian ____
Other (Specify ____

6. What is your current employment status

Employed full time	_____	6 _____
Employed part time	_____	
Unemployed	_____	
Seasonally employed	_____	

B. Please indicate the extent to which you agree with the following statements by circling either 1=Strongly Disagree, 2=Disagree, 3=Neither Agree or Disagree, 4=Agree, 5=Strongly Agree

	SD	D	NA	A	SA	
7. The cooperative education program at Quinsigamond helped me build positive self-esteem.	1	2	3	4	5	7 _____
8. The cooperative education program at Quinsigamond helped me set career goals.	1	2	3	4	5	8 _____
9. The cooperative education program at Quinsigamond helped me to understand myself better.	1	2	3	4	5	9 _____
10. The cooperative education program at Quinsigamond provided me with valuable career information	1	2	3	4	5	10 _____
11. The cooperative education program at Quinsigamond motivated me to pursue my professional goals	1	2	3	4	5	11 _____
12. The cooperative education program at Quinsigamond increased by appreciation for the relationship between school work and the world of work	1	2	3	4	5	12 _____
13. The cooperative education program at Quinsigamond helped me to become a more responsible person.	1	2	3	4	5	13 _____
14. The cooperative education program at Quinsigamond gave me the skills I needed to be successful in my profession.	1	2	3	4	5	14 _____
15. The cooperative education program at Quinsigamond helped me to better understand others.	1	2	3	4	5	15 _____

16. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	1	2	3	4	5	16 _____
17. The cooperative education program at Quinsigamond increased my awareness of professional options.	1	2	3	4	5	17 _____
18. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	1	2	3	4	5	18 _____
19. The cooperative education program at Quinsigamond improved my attitude toward life generally.	1	2	3	4	5	19 _____
20. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	1	2	3	4	5	20 _____
21. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	1	2	3	4	5	21 _____

APPENDIX B

PILOT STUDY

CONSENT FORM

I willingly agree to participate in the present study which is designed to determine the benefits of the Cooperative Education Program at Quinsigamond Community College in terms of professional development and personal growth. I understand that this is only a survey and does not obligate the principal investigator or Quinsigamond Community College in any way.

Signature _____

Date _____

Please send me a copy of the report

check

Name _____

Address _____

_____

APPENDIX C

PILOT STUDY
COVER LETTER

May 22, 1989

Dear [illegible]:

I am Diane Ross Gary, former director of the cooperative education program at Quinsigamond Community College. I am also a doctorial candidate in the School of Education at the University of Massachusetts at Amherst. I am writing to enlist your suggestions assessing the long-term benefits of the cooperative education program at Quinsigamond.

One of my long standing interests, even as director of cooperative education at Quinsigamond, was to be able to assess the long-term benefits of the program to students, in terms of its impact on their professional development and personal growth.

As a former student in the cooperative education program, your input and contribution to the assessment would be very valuable and highly appreciated.

To conduct the assessment, I have developed a questionnaire which I have called the Cooperative Education Assessment Scale (CEAS). I would appreciate it if you would respond to the questions in the scale and offer any comments or suggestions for improving it.

Please respond by June 9, 1989, so that I may be able to analyze all of the results from other former students like you in a timely fashion.

Sincerely,

Diane Ross Gary

Diane Ross Gary

APPENDIX D

MAIN STUDY

COOPERATIVE EDUCATION ASSESSMENT SCALE (CEAS)

This questionnaire has been designed to solicit your impressions regarding the benefits of cooperative education experiences. You have been identified as having been a cooperative education student at Quinsigamond Community College. Please respond to the following questions as best you can. Thank you for taking the time to respond.

Do not write in this column

I. Background Information

A. Gender (Check one) 1 _____

1. Male ____ 2. Female ____

B. Present Age: (Check one) 2 _____

1. 20-25 _____
2. 26-29 _____
3. 30-35 _____
4. 36-39 _____
5. 40-45 _____
6. 46-50 _____
7. Over 50 _____

C Age when you were a cooperative education student at Quinsigamond (check one) 3 _____

1. 20-25 _____
2. 26-29 _____
3. 30-35 _____
4. 36-39 _____
5. 40-45 _____
6. 46-50 _____
7. Over 50 _____

D What was your enrollment status at Quinsigamond (check one) 4 _____

1. Full time day student _____
2. Part time day student _____
3. Full time evening student _____
4. Part time evening student _____

E What is your race (check one) 5 _____

1. Black _____
2. White _____
3. Hispanic _____
4. Native American _____
5. Asian _____
6. Other (Specify _____

F What is your current employment status (check one) 6 ____

1. Employed full time ____
2. Employed part time ____
3. Unemployed ____
4. Seasonally employed ____

G What is your current student status? 7 ____

1. Not a student ____
2. Part-time student ____
3. Full-time student ____

II. Please indicate the extent to which you agree with the following statements by circling either 1=Strongly Disagree, 2=Disagree, 3=Neither Agree or Disagree, 4=Agree, 5=Strongly Agree

	SD	D	NA	A	SA	
1. The cooperative education program at Quinsigamond helped me build positive self-esteem.	1	2	3	4	5	8 ____
2. The cooperative education program at Quinsigamond helped me set career goals.	1	2	3	4	5	9 ____
3. The cooperative education program at Quinsigamond helped me to understand myself better.	1	2	3	4	5	10 ____
4. The cooperative education program at Quinsigamond provided me with valuable career information	1	2	3	4	5	11 ____
5. The cooperative education program at Quinsigamond motivated me to pursue my professional goals	1	2	3	4	5	12 ____
6. The cooperative education program at Quinsigamond increased by appreciation for the relationship between school work and the world of work	1	2	3	4	5	13 ____
7. The cooperative education program at Quinsigamond helped me to become a more responsible person.	1	2	3	4	5	14 ____
8. The cooperative education program at Quinsigamond gave me some of the skills I needed to be successful in my profession.	1	2	3	4	5	15 ____

9. The cooperative education program at Quinsigamond helped me to better understand others.	1	2	3	4	5	16 ____
10. The cooperative education program at Quinsigamond enhanced my ability to communicate with others.	1	2	3	4	5	17 ____
11. The cooperative education program at Quinsigamond increased my awareness of professional options.	1	2	3	4	5	18 ____
12. The cooperative education program at Quinsigamond strengthened my resolve to be successful professionally.	1	2	3	4	5	19 ____
13. The cooperative education program at Quinsigamond improved my attitude toward life generally.	1	2	3	4	5	20 ____
14. Generally, I am a better person because of my experience as a cooperative education student at Quinsigamond.	1	2	3	4	5	21 ____
15. Generally, I am successful professionally because of my experience as a cooperative education student at Quinsigamond.	1	2	3	4	5	22 ____
16. The cooperative education experience at Quinsigamond helped me refine and/or redefine my career plans	1	2	3	4	5	23 ____

III. Comments:

A. What do you think were or are the major strengths and weaknesses of the cooperative education program at Quinsigamond Community College

--Strengths

--Weaknesses

B. Please offer any suggestions you may wish for improving the program:

C. Please make any additional comments you may wish.

Thank you

APPENDIX E

MAIN STUDY

COVER LETTER

August 1, 1989

Dear [redacted],

I am Diane Ross Gary, former director of the cooperative education program at Quinsigamond Community College. I am also a doctoral candidate in the School of Education at the University of Massachusetts at Amherst. I am writing to enlist your suggestions assessing the long-term benefits of the cooperative education program at Quinsigamond.

One of my long standing interests, even as director of cooperative education at Quinsigamond, was to be able to assess the long-term benefits of the program to students, in terms of its impact on their professional development and personal growth.

As a former student in the cooperative education program, your input and contribution to the assessment would be very valuable and highly appreciated.

To conduct the assessment, I have developed a questionnaire which I have called the Cooperative Education Assessment Scale (CEAS). I would appreciate it if you would respond to the questions in the scale and offer any comments or suggestions for improving it.

Please respond by August 31, 1989, so that I may be able to analyze all of the results from other former students like you in a timely fashion.

Sincerely,

Diane Ross Gary

Diane Ross Gary

APPENDIX F
MAIN STUDY
WRITTEN CONSENT FORM

FORMER COOPERATIVE EDUCATION STUDENTS OF QUINSIGAMOND COMMUNITY COLLEGE

I willingly agree to participate in the present study which is designed to determine the benefits of the Cooperative Education Program at Quinsigamond Community College in terms of professional development and personal growth.

I understand that this research is part of a doctoral study for Diane Ross Gary, a graduate student at the University of Massachusetts and former Director of Cooperative Education at Quinsigamond Community College, and that my name will not be used and confidentiality will be adhered to.

I understand that this survey does not obligate Diane Ross Gary or Quinsigamond Community College in any way.

Signature:_____ Date:_____

Please send me a copy of the report:

Name:_____

Address:_____

APPENDIX G

WRITTEN REQUEST TO CONDUCT STUDY

STATE OF CONNECTICUT

DEPARTMENT OF EDUCATION

December 23, 1988

Mr. Clement Gainty, Dean
Student Services
Quinsigamond Community College
670 West Boylston Street
Worcester, MA 01606

Dear Clem:

Pursuant to our telephone conversation of Tuesday, December 13, I began writing this letter requesting a copy of the mailing list of cooperative education students at QCC from 1980 through 1987. However, I have been involved in many job related activities which have prevented me from sending this letter before this time.

Nonetheless, in 1980, while the Director of Cooperative Education, I developed this mailing list to respond to various needs of Co-Op in particular and to compile regional and national information in general. I am, therefore, requesting the mailing list so that I can conclude a cooperative education research project, which was started while I was at Quinsigamond and has continued since.

I plan to share the results of the research with Quinsigamond's Co-Op program once it has been completed. I will, as in the past, honor the rights of all student by not sharing their names, addresses, etc.

In advance thank you for the mailing list, if you have any further questions, please telephone me at (203)-638-4063. Because this request has been forwarded to several individuals over the last three months, I respectfully ask that the list be sent to me as soon as possible.

Diane Ross Gary
CT State Department of Education
Bureau of Vocational Services
25 Industrial Park Road
Middletown, CT 06457

Sincerely,

Diane

Diane Ross Gary, Consultant
Cooperative Work Education/
Diversified Occupations
Bureau of Vocational Services

DRG:apw
0018W/4

xc: C. Peterson, President

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