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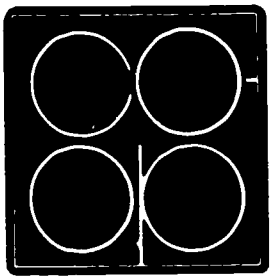
ABSTRACT

This report is addressed principally to college personnel who may have direct program responsibilities or who may otherwise have an impact upon the development of cooperative education. The aim of this report is twofold: first, to describe the research undertaken by the staff of Northeastern University Cooperative Education Research Center concerning the planning, implementation, and operation of cooperative education programs; and second, based upon the findings of that research to offer advice about the initiation and operation of a cooperative education program. The document is organized into six chapters followed by appendixes A through E. Chapter one is the introduction to the research, which includes the background and objectives of the research. Chapter two is the research plan and design, which describes the instruments, a research sample, procedures, and treatment of data. Chapter three is a taxonomy of cooperative education programs. Chapter four discusses perceptions of cooperative education by students, faculty, and administration. Chapter five outlines the elements of program implementation (included is a list of criteria for successful implementation), and discusses the correlates of program stability. Chapter six organizes conclusions and implications under four subheadings: (1) the decision to initiate a cooperative education program; (2) the planning and implementation of cooperative education; (3) special considerations and issues of cooperative education program planning and implementation; and (4) the vital cooperative education program. Appendixes include an objectives matrix, guidelines for administrator and faculty interviews, a student questionnaire, and interview guidelines for cooperative education student samples. (DMT)



IMPLEMENTATION OF COOPERATIVE EDUCATION PROGRAMS

by
The Staff
of the
Cooperative
Education
Research
Center
Northeastern
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JAMES W. WILSON, DIRECTOR
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Two others, Dr. Joseph E. Barbeau and Ms. Adrian R. Hochner, while not members of the staff, participated in a number of the case studies. Their assistance is gratefully acknowledged.

Throughout the course of our research, Dr. Ralph W. Tyler, Director Emeritus of the Center for Advanced Study in the Behavioral Sciences, served as consultant. We are especially grateful to him for the advice and wise counsel he so generously provided.

Particular thanks are due Miss Jean L. Kirwan, who prepared the final manuscript.

Finally, we are indebted to the cooperative education staff members, administrators, faculty members, and students of some thirty-four colleges and universities who suffered us on their campuses, who talked at length with us, and who made this research possible. We sincerely hope this report will justify their graciousness to us.

Northeastern University
Boston, Massachusetts

Cooperative Education Research Center Staff
August, 1975

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CHAPTER ONE

INTRODUCTION TO THE RESEARCH

Background of the Research

Over the past several years, cooperative education has expanded very rapidly. Concomitantly, there has been substantial diversification of cooperative education program types. These two observations and a spate of questions, all focusing upon approaches to program implementation, led to the research herein reported.

1. Expansion of cooperative education. A number of historical statements have been written detailing the founding of cooperative education and its subsequent development.[1] It is sufficient for the present purposes to note only that cooperative education, like many educational innovations, was slow to be accepted by the community of higher education. The first cooperative education program was begun in 1906, at the University of Cincinnati. Fifty-five years later, there were not more than 65 programs throughout the country. Following a 1961 national assessment of cooperative education which documented values accruing to cooperative education students, institutions, and employers, and the subsequent development of the National Commission for Cooperative

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[1]Parks, Clyde W. Ambassador to Industry: The Idea and Life of Herman Schneider. (New York: Bobbs-Merrill, 1943); Wilson, James A. "Historical Development," in Handbook of Cooperative Education, by Asa S. Knowles and Associates. (San Francisco: Jossey-Bass Inc., 1971), pp. 3-17; Barbeau, Joseph E. "Cooperative Education in America: Its Historical Development, 1906-1971." (Boston, Massachusetts: Northeastern University, 1973); Wohlford, James G. "The cooperative education division of ASEE--a brief history," Engineering Education, 61, 1, (1971), pp. 785-789.

Education which encouraged program adoption, the curve of expansion was increased rapidly.[2] Estimates of the population of cooperative education programs for each of the years 1969 through 1975 are summarized below:

1969 - 127
1970 - 200
1971 - 277
1972 - 317
1973 - 576
1974 - 771
1975 - 968 [3]

Data concerning the numbers of students participating in cooperative education are less exact than those for programs. Nonetheless, estimates show the growth here to also be dramatic. In 1969, it is estimated that approximately 20,000 students participated in cooperative education; by 1970, as many as 30,000 students were involved; and current estimates place the number of participating students in the neighborhood of 170,000.[4] It is clear that both the number of institutions adopting cooperative education and the number of students participating has increased phenomenally within the past 15 years. Most of this growth has occurred within the past five years.

There are many reasons for this rapid growth of cooperative education. Clearly the single most influential impetus since 1970 has been the Federal Government. Their program of grants for support of cooperative education has made exploration, planning, and implementation of programs possible

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[2]Wilson, James W. and Lyons, Edward H. Work-Study College Programs: Appraisal and Report of the Study of Cooperative Education. (New York: Harper and Brothers, 1961).

[3]The Cooperative Education Research Center, "Undergraduate Programs of Cooperative Education in the United States and Canada," Third Edition, 1975. (Boston: Northeastern University, 1975).

[4]Cooperative Education Association, "A Directory of Cooperative Education," Stewart B. Collins, Comp. (Philadelphia: Drexel University, 1970); "Philosophy and Operation of Cooperative Education," Stewart B. Collins, Comp. (Philadelphia: Drexel University, 1968); The Cooperative Education Research Center, op. cit.

for many institutions. This stimulus was itself, however, grounded in pressures for alternative approaches to higher education and evidence that cooperative education is an approach with considerable potential. In 1971, three separate reports on higher education urged colleges and universities to initiate programs of off-campus work.[5]

2. Program diversity. Prior to the rapid expansion of cooperative education, programs were essentially uniform in design and mode of operation. Before the great swell occurred, the few new programs that were initiated were inducted into the conventional mold. The rush of new programs brought with it great programming diversity. There are at least two reasons for this. First, the older, well-established programs could not provide the orientation and indoctrination to so many in so short a span of time. Second, many of the new programs involved curriculum areas or several student bodies for which there was little precedent in cooperative education. Hence, the vast majority of institutions had little to guide them other than the notion of incorporating off-campus work into the educational plan.

The consequence has been that institutions have developed program structures, policies, and practices responsive to their particular situations. For example, many programs developed a strategy other than alternating terms for students to leave the campus for work assignments and return to the campus for classes. Some programs found the use of volunteer jobs, rather than paid employment to be acceptable. Some

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[5]The Carnegie Commission on Higher Education, Less Time, More Options: Education Beyond the High School, (A Special Report and Recommendations. New Jersey: McGraw-Hill Book Co., 1971); American Academy of Arts and Sciences, A First Report: The Assembly on University Goals and Governance, (Cambridge, Massachusetts: Assembly on University Goals and Governance, 1971); United States Department of Health, Education, and Welfare, Report on Higher Education, (Washington, D.C.: U.S. Government Printing Office, 1971).

programs developed administrative organizations which used faculty as counselors rather than employing specialized cooperative education coordinators. Many programs developed in the social sciences and humanities in contrast to more explicitly career directed fields. Other differences in programming evolved, as well. Hence, today there is a diversity of programming approaches rather than a single model to emulate.

3. Calls for assistance. The preceding discussion may have given the impression that no communication or interaction has taken place by the many developing programs and the relatively few well-established ones. This is not the case. Over the past several years, substantial numbers of professional co-op people have been retained as consultants to advise persons responsible for developing programs. In addition, a number of cooperative education training centers have developed which provide training and professional development for both new and experienced administrators, program directors, and cooperative employers. Based upon our experience in these advising visits and training programs, we would observe that there are two major kinds of questions that are raised. Both kinds, however, focus upon program planning and implementation. The first kind are the detailed, "how to do it" questions. For example: How do you develop job possibilities and make work agreements? What do you put in a brochure to describe the program? How do you develop a budget for a program of cooperative education? How do you handle the problem of housing when a job requires the student to move away both from the campus and from home? The second kind of question often asked pertains to the more overriding concerns of program development: Should we have an advisory committee and, if so, who should be on it? How do the coop programs relate to the teaching faculty? What should be the purposes of

the program? What are the necessary qualifications of a program director or coordinator? What are the ingredients of a successful program of cooperative education?

Objectives of the Research

The combination of rapid expansion of cooperative education, increasing diversity of program types, and questions about planning and implementation prompted this research into cooperative education programming. The central long-range goal was to be able to provide research-based answers to questions often asked, and give sound advice to institutions seeking to initiate, expand, or strengthen programs of cooperative education. More specifically, we sought to develop a set of meaningful, research-based guidelines on the implementation of cooperative education.

With these goals in mind, we focused upon three research objectives. First, because of the increasing diversity of programming, the research sought to develop a classification of cooperative education programs which would facilitate communication about cooperative education. Second, this research sought to determine if different programmatic approaches to cooperative education are differentially successful. Third, this research sought to discover significant components of program development and to identify those components which contribute to program development and those which deter it.

CHAPTER TWO

THE RESEARCH PLAN

Research Design

The research approach chosen for this investigation was the case study method. Each case study was an in-depth examination of a cooperative education program and its relationships to other functional units of the college community. This methodology was selected because we had no specific hypothesis about program implementation to test. Rather, we anticipated the likelihood of identifying a fairly large number of variables that are linked to program development.

As we developed our plans for conducting the case studies, which included selecting the kinds of information we needed and the most appropriate sources for obtaining that information, we were guided by the notion that cooperative education program implementation is analogous to the implementation of a new curriculum. Curriculum development requires, first, an overall conception of what is to be developed; second, specification of goals and objectives to be achieved through the new curriculum; third, development of a plan for achieving these goals; and fourth, implementation of the plan. The execution of this process of curriculum building entails interaction of persons with primary responsibility for the new program and interaction of these persons with others who will be affected by or might have constructive input to it. The process necessitates the development of understanding and support. If not throughout the college community, at least in those areas directly involved. The principal assumption of this research on cooperative education program

implementation was that the process of implementation corresponds closely to the process of instituting a major curriculum revision.

Acting upon this assumption, we concluded we needed to look for variables of program implementation within the following broad areas of information:

- program objectives and developmental history
- program design and its relationship to the stated program objectives
- program characteristics and operating policies and procedures
- institutional characteristics
- kinds of interrelationships within the institution established by the cooperative education program
- student characteristics
- perceptions of the program by its own staff, students, faculty, and administration
- future plans and aspirations of the program

Research Instruments

To aid the on-site collection of data, three case study instruments were constructed. These were the: (1) Cooperative Education Program Objectives Matrix; (2) Administrator and Faculty Interview Guideline; and (3) Student Cooperative Education Questionnaire. The objectives matrix (Appendix A) was designed as a form to record stated program purposes. Three broad sets of objectives were envisioned: student learning objectives; student support objectives; and institutional benefit objectives. The interview guide (Appendix B) was designed to assist the interviewers in obtaining the desired information while keeping the interviews informal and flexible. It includes the following broad areas of desired information: purposes and objectives; initial introduction of the program; present

organization and operation; and future goals. The student questionnaire (Appendix C) asked 16 short response questions about student career interests, perceptions of growth, and attitudes toward the cooperative education program. Student responses were used as a basis for follow-up interviews. The interview guidelines may be found in Appendix D.

Before these instruments were used in actual case studies, the staff practiced among itself and conducted a "try-out" case study at a nearby institution which was in the initial stages of implementing a cooperative education program. As a result of these experiences, the instruments were revised and the interviewing techniques were refined.

Research Sample

From the directory of cooperative education programs maintained by the Research Center, a sample of 34 cooperative education programs was selected for inclusion in this study. This constituted an approximately 13 percent sample of the cooperative education programs known to be at least three years old. Programs less than three years old were excluded because it was believed their plans for implementation would more likely still be in a state of considerable flux. No attempt was made to draw a statistically representative sample from the population of programs. Rather, we sought to include samples of different kinds of programming set within different types of institutions, and located in different settings. A variety of criteria were applied in the selection of programs and institutions. We hoped to include in our study both public and private institutions, both junior and senior institutions, institutions from each geographic region of the country, institutions of various sizes, institutions from urban as well as suburban and rural areas, institutions which

serve substantial numbers of minority or disadvantaged students and institutions with different programming approaches to cooperative education. Additionally, such considerations as the institutions' willingness to participate in the study and ease of travel scheduling had to be taken into account. Of the initial group of institutions asked to participate, only three refused. In each instance, a reasonably similar institute was found.

Table 1 summarizes the information initially available to the staff about the 34 cooperative education programs, and the institutions of which they are a part. Table 1 also gives, where available, a summary of these same characteristics for the total population of cooperative education programs.[6] Although for some particular characteristics the percentage occurrance in the sample is very similar to that of the population, it is quite clear that the sample is not statistically representative of the population. It is at the same time clear that our goal of obtaining examples of a broad base of program characteristics within a variety of institutions was achieved.

Procedures

Once the initial sample had been selected, and while the case studies were still being planned, the president of each of the 34 institutions was contacted by letter and asked if his institution would participate. (A copy of the letter may be found as Appendix E). The letter requested that the president, if willing to participate, designate a member of his staff with whom we would make all further arrangements.

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[6]The Cooperative Education Research Center. "Undergraduate Programs of Cooperative Education in the United States and Canada," Second Edition, 1974. (Boston: Northeastern University, 1974).

TABLE 1

BASIC INFORMATION ABOUT THE COOPERATIVE EDUCATION PROGRAM SAMPLE AND THE POPULATION OF COOPERATIVE EDUCATION PROGRAMS

	Sample		Population
	No.	Percent	Percent
Type of Institution			
Public	19	55.9	71.2
Private	15	44.1	28.8
Associate	14	41.2	44.0
Baccalaureate	20	58.8	56.0
Location of Institution			
Urban (over 100,000)	19	55.9	---*
Medium (10,000-100,000)	9	26.5	---
Suburban and rural (under 10,000)	6	17.6	---
Size of Institution			
Large school (over 5,000)	15	44.1	---
Medium school (1,000-5,000)	16	47.1	---
Small school (under 1,000)	3	8.8	---
Date Co-op Implemented			
1906 - 1930	5	14.7	3.3
1931 - 1940	1	2.9	1.2
1941 - 1950	3	8.8	3.1
1951 - 1960	1	2.9	6.1
1961 - 1970	20	58.8	35.6
1971 - Present	4	11.8	50.7
Type Co-op Program			
Mandatory	11	32.4	11.0
Optional	16	47.1	73.4
Some curricula are Mandatory/ Some curricula are Optional	7	20.6	15.6
Program Objectives			
Career development	26	76.5	80.7
Personal and cultural growth	4	11.8	6.9
Utilize institutional resources	2	5.9	2.9
Better community relations	1	2.9	2.0
Other	1	2.9	7.5

*No data available

TABLE 1 (Continued)

		Sample		Population
		No.	Percent	Percent
Type of Co-op Calendar				
Half-Day		2	5.9	7.8
4-6 Weeks		3	8.8	1.5
Quarter		10	29.4	22.7
Semester		14	41.2	46.2
6 Months or more		2	5.9	5.3
Variable		3	8.8	12.5
Number of Co-op Terms				
One		3	8.8	9.8
Two		4	11.8	21.6
Three		7	20.6	19.6
Four		7	20.6	14.4
Five		3	8.8	5.0
Six		0	0.0	4.8
Seven		4	11.8	3.1
Eight or more		2	5.9	2.7
Variable		4	11.8	19.0
Type of Credit				
Non-additive		15	44.1	64.9
Additive		3	8.8	12.4
No credit		10	29.4	14.1
Varies with co-op curriculum		6	17.6	---*
U. S. Regions Represented				
One		1	2.9	6.2
Two		7	20.6	10.3
Three		5	14.7	8.2
Four		6	17.6	23.6
Five		7	20.6	19.4
Six		2	5.9	9.1
Seven		0	0.0	5.8
Eight		1	2.9	3.4
Nine		3	8.8	10.3
Ten		2	5.9	3.8
Institutions with predominantly minority or disadvantaged student body		8	23.5	---
At the time of case study, had IV-D grant for program administration	Yes	19	55.9	---
	No	15	44.1	---

*No data available

We suggested that this be the director of the cooperative education program. In all instances, the director was the person with whom we established the visitation dates, who arranged our schedule of conferences and interviews, and who was our host while we were on campus.

There was, of course, some variation from institution to institution of the kinds of persons with whom we were able to confer. Establishing thirty-four institutional visits at times when all the persons we wished to interview would be available is no mean task. In as many instances as possible, however, the research team met with and interviewed the following persons and groups:

- the Director of the cooperative education program.
- the cooperative education coordinators; if more than one, generally as a group.
- the President of the institution.
- depending upon the structure of the institution, the Provost, Academic Vice President or Dean of Instruction.
- depending, again, upon the organization of the institution, the deans of colleges, division chairman and/or department heads; in some instances interviews were conducted individually and in others, as groups.
- ten to fifteen members of the teaching faculty, often interviewed as a group; the faculty members represented both curricula in which students do and do not participate in the cooperative education program.
- where possible, other administrators who related to the Cooperative Education Department, such as people in Admissions, Graduate Placement, and Financial Aid.
- about fifteen students who had had one or more cooperative education work assignments; the interviews, averaging about a half-hour in length, followed completion of the Student Cooperative Education Questionnaire.

Prior to each visitation, materials such as brochures, catalogs, and reports describing both the cooperative program and the institution itself were collected and studied by the research team scheduled to conduct the

study. In all but four site visits, three staff members comprised the research teams. Two staff members visited each of these four exceptions. Teams had rotating membership so that each full-time project member served on at least one visit with each of the others. In addition to the five full-time project members, four other professional persons were included as team members on a number of visits.

Research teams spent two days on each campus conducting the case study. Every effort was made to have a team visit two institutions in a single week. Often two teams would be conducting site visits simultaneously. The first case study was begun January 7, 1974; the thirty-fourth was concluded May 9, 1974.

Treatment of Data

The raw data of this research consisted of interview notes, impressions, student questionnaire responses, and printed materials furnished by the colleges. Mostly, however, they were in the form of interview notes. These, in turn, were the principal bases for case study reports. One member of each visitation team was given primary responsibility for writing the case study report. The other members shared their notes and discussed facts and interpretation of facts with the writer and reviewed a draft of the report before it became final. Hence, although the reports were written by a single person, they were, in effect, a team product.

During the initial period of writing case studies, while visitations were in progress, full staff meetings were held to discuss reports and raise questions. These helped both in the preparation of reports and in further sharpening the case studies. Of greatest significance, however,

was that these discussions, held on each occasion that the entire staff was in the office, greatly increased the understanding of programs and the forces affecting them.

It became obvious, as case study reports began to accumulate, that we were in possession of a great quantity of rich data. It became equally obvious that we faced a problem of how to extract from this wealth of information important variables of program implementation. Two major strategies were employed. The initial approach was to try to develop an organizing scheme upon which to build an appropriate and meaningful classification system. Discussions were begun early in the planning stages of the research, continued on a much less active basis during the period in which the case studies were conducted, and then were vigorously resumed during the period of data analysis. The results of these discussions can be found in Chapter 3.

The second attack on the data was designed to systemize value judgments about programs and to focus research staff attention upon program characteristics underlying these judgments. In correlative terms, data were analyzed to highlight both the dependent variables (value judgments about programs), and independent variables (program characteristics). The methodology selected was *paired comparisons*. This procedure required each judge to select one member of a pair according to some specified criterion. Every member included in a given test was compared with every other member. Hence, if there were five entities to be compared, one with the other, there would be a total of (5 x 4) ÷ 2 or ten individual comparisons to be made.[7]

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[7]In most paired comparison tests, the number of comparisons to be made would be calculated as "n" combinations, taken two at a time because each pair would be presented twice. In one presentation, a given number would appear first, and in the second presentation, it would appear second. This is done to test the consistency of the judge. Because the paired comparisons technique was used here as a basis for staff discussion, each pair was presented only once.

To make the task manageable, comparisons were made with but ten institutions at a time. Institutions were selected at random, their names written on cards and the cards shuffled. The program on the top card became the one presented first in the first comparison; the program on the second card became the program presented second in the first comparison; the third became the second presentation of the second comparison. In this manner, every cooperative education program was compared with every other, and each one appeared first as frequently as did any of the others. Several different "tests" of this sort were constructed.

The "tests" were taken by five members of the staff. Before comparisons were made, a staff meeting was held to discuss the criterion by which the programs were to be compared. We agreed that what we sought to select in each comparison was the more "successful" program. We further agreed that we would not define "successful" beforehand. Hence, each member of the staff approached the task individually, and after the first set of 45 comparisons was completed, the results were analyzed and discussed.

The selections made by a "judge" were summarized by counting the number of times each program was judged more successful in a paired comparison. A program could be selected as many as ten times or as few as none. A count of ten meant, of course, that the program was judged more successful than all of the other nine because each time it appeared as one member of a pair, it was selected as more successful. Results were analyzed in this manner for each of the five staff members. Agreement among the five staff members was tested by the coefficient of concordance.

The reason for not explicitly defining ahead of time what would constitute success was to induce an operational definition from examination of the systematically-made judgments of actual programs. It is an interesting fact that staff members generally agreed with one another, even without an explicit definition. The smallest coefficient of concordance obtained was .716. Discrepancies did occur among staff members. These were identified and discussed in meetings. At the outset, we discovered a consistent bias effecting every member of the staff: programs which had been visited by staff members were rated, in general, as more successful by those staff than by staff members who relied only upon reading the case study reports. In all likelihood, this reflected positive identification and involvement with those programs visited. It probably also indicated, at least in some instances, that subtleties experienced by case study teams and not conveyed in reports were influencing judgments. All discrepancies of more than one rank from that which most staff members had "assigned" to a given program were discussed to discover the reasons. There were, however, very few such discrepancies. There were none at the extremes of selection and rejection.

The extremes became the focus of subsequent study. The principal question for which we sought an answer was why and for what reasons had we consistently selected some programs as more successful and others as less successful. This examination accomplished two important results: a specific and useful conception of "successful program implementation," and discovery of correlates of this conception. These findings will be discussed further in Chapter 5.

CHAPTER THREE

A TAXONOMY OF COOPERATIVE EDUCATION PROGRAMS

Need for a Taxonomy

In Chapter One of this research report, the increasing diversity of types of cooperative education programs was briefly explored. This section of the report will discuss in greater detail this diversity and the concomitant need for a taxonomic system in order to ensure continuing and meaningful communication within the cooperative education community.

Historically, *cooperative education* referred to a plan of education with a narrow distribution of arrangements for having students alternate periods of full-time on campus study with equally long periods of full-time employment on a job which was as closely related as possible to the student's major field of study. With only very few exceptions, the program of cooperative education was made available exclusively to students in professional curricula and its intention was to help students to prepare for a full-time after-college occupation in the field of their major. Again, with very few exceptions, students were required to spend an additional year to complete their undergraduate degree. The following definition of cooperative education, which appeared in a 1954 publication, illustrates the point that cooperative education was a carefully delineated concept with several restrictions and little room for variant forms.

> Basically, the cooperative plan is defined as an integration of classroom work and practical industrial experience in an organized program under which students alternate periods of attendance at college with periods of employment in industry, business, or government. The employment constitutes a regular continuing and essential element in the educational process and some minimum amount of employment and minimum standard of performance are included in the requirements for a degree.

> The plan requires that the student's employment be related to some phase of the branch or field of study in which he is engaged, and that it be diversified in order to afford a spread of experience. It requires further that his industrial work shall increase in difficulty and responsibility as he progresses through his college curriculum, and in general, shall parallel as closely as possible his progress through the academic phases of his education.[8]

In contrast, Wilson has suggested in a number of articles published over the past few years that the only common element in all cooperative education is the element of productive work to be performed by students as an integral part of the student's curriculum.[9] Some writers believe even this is too restrictive a concept of cooperative education, asserting that cooperative education is the umbrella concept under which all off-campus experiential programs fall.[10] The point of the more recent efforts to define cooperative education has been to emphasize the defining characteristic of cooperative education and not incorporate the means of implementation into the concept itself. Such an effort, of course, acknowledges that no longer is there but a single mode of involving students in work as a regular part of their undergraduate education. The fact is, that to refer to cooperative education without any additional differentiation does not fully communicate the character of the program under discussion. This seems in itself to be a sufficient

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[8]Armsby, Henry. "Cooperative Education in the United States," U. S. Department of Health, Education, and Welfare, U. S. Office of Education, Bulletin 1954, No. 11.

[9]Wilson, James W. "On the Nature of Cooperative Education," Journal of Cooperative Education, VI, 2, (1970); Wilson, James W. "Reflections on What a Coordinator Is," Journal of Cooperative Education, VIII, 2, (1972); Wilson, James W. "Cooperative Education and Degree Credit," Journal of Cooperative Education, IX, 2, (1973).

[10]Wooldridge, Roy L. "Cooperative Education Today: A Reassessment," Paper presented at the Cooperative Education Conference sponsored by the Cooperative Education Association and the Cooperative Education Division of the American Society for Engineering Education, New York, (1973).

reason for need of a classification system for cooperative education programs.

Taxonomic Schemes Considered

The initial notion pursued was that programs might be classified in terms of the principle objectives they sought to achieve. Thus, we argued that a program which concentrated on the development of career-related objectives might be a clearly distinguishable program from one which sought to provide financial assistance to students or, again, from one that emphasized the development of personal and cultural goals. We considered and examined the possibility that the environmental conditions surrounding an institution might be an appropriate basis for classifying programs. The argument in this instance was that a program in an urban area might clearly be different and distinguishable from a program in a rural area and that a baccalaureate degree institution would have a program of cooperative education markedly different from one found in a two-year junior or community college. While these approaches to classifying cooperative education programs along with others that were considered appeared to have merit even after case study material was collected, it became obvious very quickly that each was inadequate because it grouped together a number of programs which seemed to the staff to be clearly different from one another. At present, the judgment of the staff is that the most useful organizing principle for a taxonomy is the operating mode of the program. This approach has merit because, in a manner better than any other we have discovered, it groups programs which seem to have the greatest similiarities and includes in a given category the fewest number of programs which seem unlike the other members.

It also has merit because it is open-ended. Although in our sample of institutions we identified three principle classifications and a potential fourth classification, there is no reason to believe that as programs of cooperative education continue to evolve and look for operating modes which best suit particular institutions, there cannot be more classes of programs.

The Taxonomy

The taxonomy as now delineated is as follows:

1. *Alternating Mode.* Students from a given class such as sophomore, junior, or senior are divided into two groups. While one group of students is studying full-time on campus, the other is working full-time. There are at least two alternations of students on work assignments. A central feature of alternating programs is that the institution seeks to assure employers of continuity of job coverage; that is, assuring them that through this particular scheme, the institution will always provide them with a productive worker for a given work situation.

2. *Field Mode.* Students participating in the cooperative education program leave the campus for some specified period of time one or more times during the course of their undergraduate education, but no more than once in any given year. In contrast to the alternating approach, no assurance of job coverage continuity is provided.

3. *Parallel Mode.* Students participating in the program attend college part-time or full-time during one segment of the day, morning or afternoon, and work during the other segment. Hence, the student is never, as a cooperative education student, a full-time employee, but rather a part-time employee.

All but one of the 34 programs studied in the present research fit into one of these classes of programs. The remaining program constituted what may or may not eventually be viewed as a fourth class of cooperative education. It is referred to as the *extended day mode*

of operation. In this program, students are employed full-time and attend college on a part-time basis, typically as continuing education or evening college students. Coordination of the program is conducted through a seminar, course, or research project at the college which is designed to integrate the students' work experience with their classroom experience. Whether or not this is a real example of cooperative education is open to question because the institution's traditional responsibility for finding appropriate work assignments is often missing in this situation. Nonetheless, it does represent an example of a potentially meaningful mix of work and study, and for this reason is proposed as an element of the program taxonomy.

Of the 34 programs participating in this research, seventeen are alternating programs, seven are field programs, three are parallel programs, one is an extended day program, and six operate two types of cooperative education programs simultaneously. Of these six, five make both an alternating mode and a parallel mode available to students, and the other offers a field mode and a parallel mode concurrently. These six programs do not constitute a distinct mode but are, instead, combinations of modes already described in the taxonomy. For the purposes of data analysis, these six "mixed" programs will be treated as a separate group because they cannot reasonably be designated as belonging to one of the other modes.

Correlates of Program Types

The data in Table 2 show institutional and program characteristics associated with the program types in our research sample. Alternating and field programs are found more typically in baccalaureate degree

TABLE 2

Institutional and Program Characteristics Associated With Program Types--
For Research Sample of Cooperative Education Programs

	Alternating	Field	Parallel	Extended Day	Mixed
Type of Institution					
Public	6	3	3	1	6
Private	11	4	0	0	0
Associate	3	1	3	1	6
Baccalaureate	14	6	0	0	0
Location of Institution					
Urban (over 100,000)	12	2	1	0	4
Medium (10,000-100,000)	2	2	2	1	2
Suburban and Rural (under 10,000)	3	3	0	0	0
Size of Institution					
Large (over 5,000)	7	2	0	0	6
Medium (1,000-5,000)	8	4	3	1	0
Small (under 1,000)	2	1	0	0	0
Date Co-op Implemented					
1906 - 1930	5	0	0	0	0
1931 - 1940	1	0	0	0	0
1941 - 1950	1	2	0	0	0
1951 - 1960	1	0	0	0	0
1961 - 1970	7	4	2	1	6
Since 1971	2	1	1	0	0
Type Co-op Program					
Mandatory	8	3	0	0	0
Optional	8	3	2	1	2
Some Mandatory/Some Optional	1	1	1	0	4
Primary Learning Objective					
Career Development	12	3	3	0	4
Personal Development	2	3	0	0	0
Relate Theory to Practice	3	1	0	1	2
Type of Academic Credit					
Non-Additive	3	3	2	1	6
Additive	3	0	0	0	0
No Credit	8	2	0	0	0
Varies with each coop program	3	2	1	0	0

TABLE 2 (Continued)

	Alternating	Field	Parallel	Extended Day	Mixed
Person Awarding Credit					
Teaching Faculty	3	4	0	0	1
Coop Coordinator	1	0	2	0	2
Coop Teaching Faculty	2	1	1	1	3
Location of Coop Jobs					
Within Commuting Distance	7	2	3	1	5
In Same State or Nearby States	4	3	0	0	1
All Over U.S. and overseas	6	2	0	0	0
Payment for Coop Job					
Most paid	16	3	3	1	5
Mixed	1	2	0	0	1
Most Voluntary	0	2	0	0	0

institutions, whereas parallel and mixed programs are more often found in associate degree institutions. It is also the case that mandatory programs are found only among alternating and field programs. As would be expected, the parallel and mixed programs are a relatively recent phenomena (all have begun since 1961), while some of the alternating and field programs are considerably older.

According to these data, non-additive credit is more frequently associated with parallel or mixed programs. There is some suggestion that among those institutions awarding non-additive credit for cooperative work experience, the program personnel of parallel or mixed programs are more often involved in the awarding of credit than those of field or alternating programs. In the field and alternating programs, one is more likely to find teaching faculty, or a combination of cooperative personnel and teaching faculty, awarding the non-additive credit. This difference,

however, may be accounted for by the fact that the cooperative personnel in many of the parallel and mixed programs are also current or former members of the teaching faculty.

The research staff also examined data regarding cooperative education work assignments. The data show that more alternating and field programs develop cooperative work assignments located at considerable distances from the institutions than is the case for parallel and mixed programs. In looking more specifically at the nature of work assignments, one notices that only field programs had jobs which were largely volunteer positions.

TABLE 3

Number of Students Interviewed According to Co-op Curricula and Program Type

	Alternating	Field	Parallel	Extended Day	Mixed
Curricula Having Coop	No. %	No. %	No. %	No. %	No. %
Business	76 (33.2)	13 (14.0)	24 (57.1)	13 (86.7)	25 (29.4)
Engineering	62 (27.1)	1 (1.1)	0 (0.0)	0 (0.0)	4 (4.7)
Liberal Arts/Sciences	21 (9.2)	18 (19.3)	0 (0.0)	1 (6.7)	4 (4.7)
Liberal Arts/Non Science	44 (19.2)	58 (62.4)	1 (2.4)	0 (0.0)	20 (23.5)
Career/Vocational Programs	26 (11.3)	3 (3.2)	17 (40.5)	1 (6.7)	32 (37.7)

Table 3 shows the numbers of students interviewed in the research sample according to their curricula and program type. Examination of the table indicates that cooperative education programs in business and engineering are most likely to be found operating on the alternating plan. The parallel programs, which in our sample were found exclusively in two-year institutions, tend to have cooperative education either in business or career/vocational curricula. Field programs, on the other hand, are

most likely to exist in the liberal arts, non-science curricula. The mixed programs do not show such distinct tendencies to cluster in one or two curricula.

To check the extent to which these associations are generalizeable, the directory of programs, which is maintained and updated annually by the Cooperative Education Research Center, was studied. All known fully operational programs for which information was available were categorized as *alternating, field,* or *parallel.* The directory data did not permit either the classification of *extended day* or *mixed.* Then, for each program type, the total number of programs having each of the characteristics just discussed was determined. The results of this analysis are found in Table 4.

Again, and with statistical reliability, it is observed that parallel programming is associated with public, two-year institutions, (i.e. community colleges), and both alternating and field programs are more characteristic of four-year institutions. Reliably more field programs require participation of students, and reliably more alternating programs have selective programs. By selective, we mean that students may elect to apply to participate but must use specified criteria before they are acceptable to the program. Again, non-additive credit is clearly more characteristic of parallel programs than of alternating programs. Although it is not apparent in an examination of the research sample data, the directory analysis shows that substantially more field than alternating programs award non-additive credit. Like the sample results, however, the practice of having this credit determined by the cooperative education staff is more characteristic of parallel programs, and involvement of faculty, either solely or in concert with the cooperative education staff,

TABLE 4

Institutional and Program Characteristics Associated With Program Types - For Population of Coop Programs - 1974 Census

	Alternating		Field		Parallel	
	No.	%	No.	%	No.	%
Type of Institution						
Public	192	(62.7)	20	(74.1)	137	(84.0)
Private	114	(37.3)	7	(25.9)	26	(16.0)
Associate	81	(26.5)	9	(33.3)	120	(73.6)
Baccalaureate	225	(73.5)	18	(66.7)	43	(26.4)
Date Coop Implemented						
1906 - 1930	15	(28.6)	1	(19.2)	2	(6.7)
1931 - 1940	6		0		0	
1941 - 1950	9		3		4	
1951 - 1960	25		1		4	
1961 - 1970	95	(32.2)	10	(38.5)	66	(44.3)
Since 1971	145	(49.2)	11	(42.3)	73	(49.0)
Type Coop Program						
Mandatory	28	(9.2)	12	(48.0)	17	(11.0)
Optional, Freely	115	(37.8)	4	(16.0)	66	(42.9)
Optional, Selective	142	(46.7)	3	(12.0)	35	(22.7)
Some Mandatory/Some Optional	19	(6.3)	6	(24.0)	36	(23.4)
Primary Learning Objective						
Career	251	(85.1)	22	(88.0)	124	(76.5)
Personal	21	(7.1)	1	(4.0)	12	(7.4)
Other	23	(7.8)	2	(8.0)	26	(16.1)
Type of Academic Credit						
Non-Additive	156	(52.2)	20	(74.1)	128	(80.0)
Additive	38	(12.7)	5	(18.5)	20	(12.5)
No Credit	67	(22.4)	1	(3.7)	7	(4.4)
Credit for Projects	38	(12.7)	1	(3.7)	5	(3.1)
Person Awarding Credit						
Teaching Faculty	72	(33.6)	11	(42.3)	31	(20.1)
Co-op	75	(35.0)	8	(30.8)	88	(57.1)
Co-op and Teaching Faculty	55	(27.7)	5	(19.2)	22	(14.3)
Advisory Committee and Other	12	(5.6)	2	(7.7)	13	(8.4)

is more characteristic of alternating and field programs. A somewhat surprising result emerges when one examines each program type in relation to the year in which the program was initiated. There is no difference between alternating and field programs. Both, however, are more characteristically older programs than the parallel mode. Again, however, the real difference here is the relative non-existence of two-year institutions, especially those with cooperative education programs. Since 1971, there has been a reasonably even development of each type of program.

National data on location and institutional size of cooperative education was not available. The point must be made, however, that by their very nature, parallel programs must be within reasonable commuting distance of potential employers. Hence, one would anticipate, as was the case in our research, that very few would be found in rural areas. Because alternating and field programs are not thus restricted, one would not expect to find any special association with institutional location.

This classification scheme seems to us to have merit because it is applicable to all known cooperative education programs, is expandable as new types are developed and each type is clearly distinguishable. The association of program types with other program and institutional characteristics provides further evidence that classifying coop programs according to their basic mode of operation is a useful taxonomic system.

CHAPTER FOUR

PERCEPTIONS OF COOPERATIVE EDUCATION

Case study data enabled the staff to examine the views of students, faculty, and administrators regarding cooperative education. When all of the sample programs were considered in aggregate, a picture was obtained of how each group perceives cooperative education. This section of the report examines the perceptions of each group.

Student Perceptions

A total of 469 students were interviewed. Prior to the interview, they were asked to complete a short questionnaire, which was then used as the basis of the interview. Responses to some items of this questionnaire give a clear picture of how these students perceive their cooperative education programs. In response to the questionnaire statement, "My overall rating of the co-op program is:" 92 percent of the students reported positively.

Excellent	53.7 Percent
Good	38.4
Fair	7.0
Poor	0.9

A further indication of student perceptions was obtained by asking students to appraise the contribution which each of several groups had made to their educational experiences. The students responded in the following manner:

	Positive	Negative	Neutral
Coordinators	79.4%	4.6%	16.0%
Faculty	68.2	3.6	28.2
Administrators	39.3	8.2	52.4
Employers	83.2	3.5	13.3
Other Students	61.3	3.6	35.1
Other Workers	73.4	2.7	23.9

The views of students toward the contributions of employers and coordinators to their educational experience are essentially the same. When compared with the four other groups, both employers and coordinators are viewed more positively than the others. Chi Square values, comparing student views of the coordinators' contributions with their views of the contributions of each of the other groups, can be seen in Table 5.

TABLE 5

Comparison of Student Perceptions of Coordinators With Each of Five Other Groups

Groups	Chi Square Value	Degrees of Freedom	Probability
Faculty	19.955	2	less than .001
Administrators	154.419	2	less than .001
Employers	2.185	2	greater than .200
Other Students	43.342	2	less than .001
Other Workers	10.495	2	less than .010

The data also show that the percentage and variance of negative feelings about the contributions of the several groups is small. It is also clear from these results that of these groups, administrators are least known and are perceived as least influential. When asked to contrast cooperative education with traditional education as they experienced or understood it to be, 85 percent of the students asserted cooperative education to be more beneficial. An additional 14 percent saw it as being equally beneficial and only one percent saw cooperative education as less beneficial than traditional approaches.

Interviews with students revealed some criticisms of program operation and design. Ninety-five critical comments were recorded. Of these, 76 percent were classifiable into three major areas of criticism: work

assignments and relations with employers; coordinator functioning; program policies and institutional policies relating to cooperative education. Job-related comments included "not enough jobs," "not enough relevant jobs," "not enough well-paying jobs," "not enough flexibility in job selection," "poor relationship with employer." Criticisms of coordinators include such statements as, "not enough contact with the coordinator," "the coordinator isn't sufficiently interested," "the coordinator doesn't visit me on the job," "not enough consideration of student needs." Finally, criticism which seems to relate to program and institutional policy include, "coop department is understaffed," "the program should award credit," "the program is insufficiently structured," "scheduling courses is difficult."

Within the context of the strong positive feeling toward cooperative education by the large majority of students, these critical comments should be viewed strictly as expressions of the kinds of situations or practices which are of concern. These critical comments have particular relevance to the staff's evolving view of ingredients important to program implementation.

In discussing student perceptions of cooperative education, it is also important to note if there are significant differences between the kinds of students who participate in the different cooperative program types. Data indicating this to be the case would help to support the usefulness and reliability of the taxonomic scheme suggested in the previous chapter. An examination of the student responses to the questionnaire does, in fact, show some significant differences in the responses of students and kinds of students within the program types.

The first section of Table 6 compares the ages of students according to program type. The chi-square analysis shows that there are significant differences in the ages of students among the four program types. The second section shows a two-way analysis of variance test which yields an F-score of 10.79. This value, with 448 and 4 degrees of freedom, is significant beyond the .01 level. Extended-day students were included in this analysis because the analysis of variance is not limited by frequencies. The data show that students in field and alternating programs are, on the average, younger than those in the parallel and mixed programs. The extended-day students are older than all of the other groups. A Duncan's Multiple Range Test was also performed.[11] This demonstrated that, excluding a comparison of mixed and parallel programs and of field and alternating programs, all other comparisons between the five program types are reliably different.

TABLE 6

A Comparison of Ages of Cooperative Education Students According to Program Type

Chi Square Analysis

Age of Students	Field	Alternating	Mixed	Parallel	(Extended Day)*
17-19	7	25	31	16	(2)
20-22	73	134	21	5	(2)
23-25	5	41	15	6	(4)
26+	5	26	20	11	(8)

d.f. = 9 X^2 = 102.68 p < .01

Two-Way Analysis of Variance

	Field	Alternating	Mixed	Parallel	Extended Day
Mean	21.39	22.07	23.55	24.35	29.12
Variance	5.48	10.84	49.71	61.07	108.38
n	90	223	86	37	16

Source of Variation	Sum of Squares	d.f.	Mean Square	F	p
Between groups	10945.20	4	26364	10.79	< .01
Within groups	1054.58	448	24.43		
	11999.78	452			

*Extended day not included in Chi-Square analysis because of small frequencies.

[11]Kramer, C. Y. "Extension of Multiple Range Tests to groups means with unequal numbers of replications." Biometrics, 1956, 12, 307-310.

Using the samples of students who participated in our research study, one observes that especially in alternating programs, but also in parallel and extended-day programs, there are many more male students in the cooperative program than females. This may be a reflection of the fact that the cooperative programs of this sample, especially the alternating ones, are in traditionally male-dominated fields, such as engineering and business.

TABLE 7

Sex of Students Interviewed by Program Type

	Alternating	Field	Parallel	Mixed	Extended Day
Female	69*	52*	17	44	3
Male	164	37	24	44	13

*Figures include one all-female college.

$X^2 = 29.847$ d.f. = 4 $p < .01$

The data in Table 8 show a number of differences among the responses of students participating in different program types. Significant differences can be seen, for example, regarding the certainty students felt about their specific career choice. Students in extended day (58.3%), and field programs (40.2%), are more likely to be uncertain of their specific career choice than students in the other programs. When questioned about the impact of cooperative education on their specific career choice, it is interesting to note that a higher percentage of students in field programs said their specific career choice had changed as a result of their cooperative experience.

The question on after-graduation plans also reveals some significant differences. Students in extended-day programs more often worked full-time

TABLE 8

Student Responses to Questionnaire Items By
Cooperative Education Program Types

	Alternating	Field	Parallel	Mixed	Extended Day
1. Before entering college, my general field of interest was:					
Uncertain	30 (12.9%)	16 (17.4%)	5 (11.9%)	13 (14.4%)	4 (33.3%)
Somewhat Certain	102 (43.8)	41 (44.6)	20 (47.6)	42 (46.7)	4 (33.3)
Certain	101 (43.3)	35 (38.0)	17 (40.5)	35 (38.9)	4 (33.3)
	$X^2 = 5.417$	d.f. = 8	$p > .1$		
2. Before entering college, my specific career choice was:					
Uncertain	65 (28.9%)	37 (40.2%)	8 (19.1%)	25 (28.1%)	7 (58.3%)
Somewhat Certain	108 (48.0)	36 (39.1)	21 (50.0)	38 (42.7)	1 (8.3)
Certain	52 (23.1)	19 (20.7)	13 (30.9)	26 (29.2)	4 (33.4)
	$X^2 = 15.646$	d.f. = 8	$p < .05$		
3. Due to my coop experience, my general field of interest has been:					
Discovered	44 (19.2%)	18 (19.8%)	3 (7.5%)	13 (15.5%)	4 (33.3%)
Confirmed	155 (67.7)	57 (62.6)	33 (82.5)	59 (70.2)	6 (50.0)
Changed	30 (13.1)	16 (17.6)	4 (10.0)	12 (14.3)	2 (16.7)
	$X^2 = 8.411$	d.f. = 8	$p > .1$		
4. Due to my coop experience, my specific career choice has been:					
Discovered	62 (29.5%)	19 (22.1%)	4 (10.3%)	16 (19.3%)	3 (27.3%)
Confirmed	108 (51.4)	40 (46.5)	25 (64.1)	53 (63.8)	7 (63.6)
Changed	40 (19.1)	27 (31.4)	10 (25.6)	14 (16.9)	1 (9.1)
	$X^2 = 16.601$	d.f. = 8	$p < .05$		
5. Due to my coop experience, my career ambitions and commitment are now:					
Lowered	1 (.4%)	2 (2.3%)	0 (0.0%)	1 (1.1%)	0 (0.0%)
Raised	172 (75.1)	71 (80.7)	34 (79.1)	64 (72.7)	12 (100.0)
Same	56 (24.5)	15 (17.0)	9 (20.9)	23 (26.1)	0 (0.0)
	$X^2 = 9.192$	d.f. = 8	$p > .1$		

TABLE 8 (Continued)

	Alternating	Field	Parallel	Mixed	Extended Day
6. Upon graduation, I plan to:					
Work full-time at a coop-derived job	69 (31.8%)	20 (21.3%)	11 (25.6%)	33 (35.9%)	7 (58.3%)
Work part-time at a coop-derived job	3 (1.4)	2 (2.1)	0 (0.0)	2 (2.2)	0 (0.0)
Work at a non-coop-derived job	22 (10.1)	13 (13.8)	8 (18.6)	7 (7.6)	2 (16.7)
Obtain additional education	72 (33.2)	39 (41.5)	12 (27.9)	38 (41.3)	2 (16.7)
Undecided	40 (18.4)	15 (16.0)	10 (23.3)	8 (8.7)	0 (0.0)
Other (Please specify)	11 (5.1)	5 (5.3)	2 (4.6)	4 (4.3)	1 (8.3)
	$X^2 = 38.118$	d.f. = 20	$p < .01$		
7. Ten years from now, if working, I expect to achieve:					
Top-level position in my field	123 (54.7%)	40 (44.9%)	21 (47.7%)	55 (63.2%)	11 (91.7%)
Middle-level position in my field	75 (33.3)	26 (29.2)	12 (27.3)	18 (20.7)	1 (8.3)
Semi-professional status	9 (4.0)	9 (10.1)	6 (13.6)	8 (9.2)	0 (0.0)
A job	1 (.4)	3 (3.4)	2 (4.5)	1 (1.2)	0 (0.0)
Part-time employment	1 (.4)	1 (1.1)	1 (2.3)	0 (0.0)	0 (0.0)
Other (Please specify)	16 (7.1)	10 (11.2)	2 (4.5)	5 (5.7)	0 (0.0)
	$X^2 = 32.766$	d.f. = 20	$p < .05$		
8. Due to my coop experience, my personal growth and social awareness have been:					
Increased	210 (90.1%)	89 (96.7%)	38 (90.5%)	80 (89.9%)	11 (100.0%)
Decreased	1 (.4)	0 (0.0)	1 (2.4)	0 (0.0)	0 (0.0)
Unchanged	22 (9.4)	3 (3.3)	3 (7.1)	9 (10.1)	0 (0.0)
	$X^2 = 9.645$	d.f. = 8	$p > .1$		
9. Based on my knowledge of a traditional college education, a coop education is:					
More beneficial	200 (86.6%)	83 (90.2%)	31 (73.8%)	74 (83.2%)	9 (81.8%)
Less beneficial	2 (.9)	0 (0.0)	0 (0.0)	1 (1.1)	0 (0.0)
As beneficial	29 (12.5)	9 (9.8)	11 (26.2)	14 (15.7)	2 (18.2)
	$X^2 = 8.753$	d.f. = 8	$p > .1$		

TABLE 8 (Continued)

	Alternating	Field	Parallel	Mixed	Extended Day
10. In my judgment, the coop program is:					
Too career oriented	7 (3.1%)	1 (1.1%)	0 (0.0%)	1 (1.2%)	0 (0.0%)
Not career oriented enough	41 (17.9)	13 (14.6)	5 (11.9)	9 (10.3)	0 (0.0%)
As career oriented as it should be	181 (79.0)	75 (84.3)	37 (88.1)	77 (88.5)	11 (100.0)
	$X^2 = 8.834$ d.f. = 8 $p > .1$				
11. In my judgment, the coop program is:					
Too flexible	7 (3.1%)	5 (5.7%)	2 (4.9%)	3 (3.4%)	0 (0.0%)
Not flexible enough	53 (23.3)	8 (9.1)	5 (12.2)	12 (13.6)	0 (0.0)
As flexible as it should be	167 (73.6)	75 (85.2)	34 (82.9)	73 (83.0)	11 (100.0)
	$X^2 = 15.402$ d.f. = 8 $p < .10$				
12. In the organization and functioning of the coop program, students are:					
Too involved	3 (1.3%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Insufficiently involved	108 (47.6)	27 (32.5)	7 (17.1)	21 (24.1)	1 (9.1)
Sufficiently involved	116 (51.1)	55 (66.3)	34 (82.9)	66 (75.9)	10 (90.9)
	$X^2 = 31.460$ d.f. = 8 $p < .01$				
16b. My overall rating of the coop program is:					
Excellent	109 (47.4%)	45 (50.6%)	26 (65.0%)	56 (64.4%)	9 (75.0%)
Good	102 (44.3)	35 (39.3)	12 (30.0)	25 (28.7)	2 (16.7)
Fair	17 (7.4)	8 (9.0)	1 (2.5)	6 (6.9)	1 (8.3)
Poor	2 (.9)	1 (1.1)	1 (2.5)	0 (0.0)	0 (0.0)
	$X^2 = 15.962$ d.f. = 12 $p > .1$				

at a cooperative-derived job after graduation than students in other program types. On the other hand, students in field or mixed programs had a greater tendency than students in other programs to obtain additional education after graduation. When questioned on their work expectations ten years from the present, almost all (91.7%) of the extended-day students

said they expected to achieve a top-level position in their field. In contrast, only about half of the students in the other program types gave this response. Of all the students surveyed, those in the field programs were most apt to have "other plans," with regard to their expectations for the future.

Of the total number of students in all of the programs, most agreed that their career ambitions and commitment were raised as a result of their cooperative education experience. Similarly, most agreed that their personal growth and social awareness were increased by their cooperative education experience, that their cooperative education was more beneficial than a traditional education, and that the cooperative education program was sufficiently career-oriented. They also concurred on their overall assessment of their cooperative programs. This assessment was generally positive. No significant differences were found among the assessments of students in the different program types.

As the data in Table 8 reveal, it is significant that many students in alternating programs (47.6%), felt they were insufficiently involved in the organization and functioning of their cooperative program. This was found to be less of a problem in field (32.5%), mixed (24.1%), and parallel (17.1%), programs, and a relatively small problem for extended-day programs (9.1%). It also appears that a higher percentage of students in alternating programs felt their cooperative program was not flexible enough.

Students in the various program types were found to differ in their opinions as to how the cooperative education program had prepared them for the future. As the data in Table 9 show, for example, students in field programs saw the development of their personal growth as the principle

benefit, while students in the other programs ranked career development first. The data also show that extended-day students ranked financial gains higher than did students of the other four program types.

TABLE 9

Average Rankings By Students In Different Program Types of Perceived Cooperative Education Outcomes

	Alternating		Field		Parallel		Mixed		Extended Day	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Academic Knowledge	4.886	(2.532)	4.937	(2.508)	4.512	(2.404)	4.894	(2.414)	3.916	(2.151)
Career Development	3.554	(2.291)	3.888	(2.255)	3.282	(2.199)	3.194	(2.248)	2.416	(1.928)
Financial Gains	6.680	(2.407)	7.528	(2.266)	6.825	(2.530)	6.551	(2.546)	5.333	(2.806)
Interpersonal Relationships	4.701	(2.322)	4.021	(2.386)	5.202	(2.352)	5.589	(2.365)	6.916	(2.020)
Job Opportunities	5.465	(2.472)	6.086	(2.398)	5.333	(2.678)	5.653	(2.738)	4.416	(2.574)
Personal Growth	4.091	(2.475)	3.086	(2.003)	5.076	(2.240)	4.269	(2.288)	5.666	(2.774)
Social Awareness and Concern	5.407	(2.465)	4.467	(2.424)	5.641	(2.230)	5.711	(2.281)	6.000	(2.256)
Specific Skills	5.540	(2.483)	5.455	(2.120)	4.820	(3.059)	4.645	(2.552)	4.833	(2.329)
Work Attitudes and Values	4.312	(2.507)	4.582	(2.108)	4.000	(2.294)	4.455	(2.310)	5.500	(2.315)

Source of Variation	Sum of Squares	d.f.	Mean Square	F	p
A (Items)	1195.850	8	149.481	25.845	< .01
B (Groups)	2.134	4	.533	.092	
A X B	650.294	32	20.321	3.513	< .01
Within	22637.396	3914	5.783		

Student responses to this questionnaire will be discussed further in later sections of the report. Their responses to the entire questionnaire may be found in Appendix C.

Faculty Perceptions

We discussed the cooperative education program with some 275 faculty members. The range of attitudes expressed by faculty was far greater than

those of the students. While a substantial majority were positive about the program, the degree of positive feeling ran from unbridled enthusiasm to the edge of indifference. Perhaps as many as a fifth of the faculty with whom we spoke were essentially indifferent to cooperative education, finding the existence of the program on campus of no interest or importance to them. Only a very few faculty, however, were clearly negative in their attitudes toward cooperative education.

The major questions of faculty regarding the appropriateness of cooperative education focused on the character of the work experience and the relationship of the program to the academic integrity of the institution. The principal issue regarding work assignments was the "relatedness" and relevance of the job. By this, they refer to the degree to which the functions and tasks of the job correspond to the content of the student's major field of study. They tend toward less support, indifference, and negative feelings as the job responsibilities deviate more from the student's academic major. Thus, for example, one is generally more likely to find stronger support for cooperative education among engineering faculty whose students have engineering-related cooperative work assignments than among sociology faculty whose students may be working as bank tellers or hospital aides. A related faculty concern has to do with the level of work to be performed by the student. A gap is frequently found between the level of responsibility given students (particularly during the student's first cooperative work term) and that which the faculty believe to be appropriate in light of the student's level of academic accomplishment. Faculty support is inversely related to the perceived size of this gap.

A second major concern of the faculty, that of the academic probity of cooperative education, is especially aroused when degree credit for cooperative education is initiated or proposed. Historically, faculty

are the custodians of academic credit and for the most part, take this responsibility seriously. Our experience with the programs of this research leads us to conclude that negative faculty feelings toward cooperative education are generated by a policy of awarding credit for student participation and excluding faculty from any part of the decision-making process. On the other hand, we observed a number of instances in which cooperative education staff and faculty collaborated effectively in awarding credit. Faculty support for the program in these institutions was strong. This issue will be examined further in a later section of the report.

Administration Perceptions

All administrators with whom we met spoke positively about cooperative education. The guarded and tentative nature of positive comments by some administrators, however, stood in sharp contrast to the forceful and enthusiastic comments offered by others. We concluded that, in fact, administrative attitudes ranged from essential indifference to strong, constructive support. Strongest support was found among those administrators who saw in cooperative education an opportunity to greatly enrich and reinforce the education of their students. The major concern expressed by administrators, particularly the top ones, was the cost of the program. In the large majority of institutions we visited, the cooperative education programs were not self-sustaining. Finding or allocating money to continue the program, especially when having to set priorities from among competing programs was of great concern to a number of the presidents with whom we talked. Because of the many demands upon limited resources, it requires considerable commitment to cooperative education to continue giving it

the support it requires. We did encounter some administrators who, in spite of serious financial concerns, were strongly supportive of their cooperative education program.

Summary

In summary, most students, faculty, and administrators with whom we talked perceived the cooperative education program on their campuses very positively. The major values perceived were that cooperative education work experience can provide students opportunities to further career development and overall educational experience, and it can provide needed funds to ease the costs of education. When questions and doubts of the efficiency of cooperative education were raised, they focused on concerns of availability, level, and discipline--relatedness of jobs; program costs; methods of awarding academic credit for a cooperative work experience; and the degree of involvement of students and faculty in the organization and functioning of the program.

CHAPTER FIVE

ELEMENTS OF PROGRAM IMPLEMENTATION

Criteria of Successful Implementation

It was reported in Chapter Two that after completing the case studies, the staff used the method of paired comparisons to systematically assess programs. There was a high degree of agreement among five staff members and complete agreement at the extremes of selection and rejection. These extreme cases became the staff's initial focus for examining differences and similarities of programs judged to be successful and those judged to be considerably less successful.

It became clear as we studied these programs that our implicit criteria when making our paired comparisons was essentially program stability. All of the programs consistently chosen as being more successful regardless of which others they were paired with, were ones found to have explicit and institutionally accepted program goals, a definitive plan of operation to achieve these goals, substantial numbers of students participating in jobs which they perceive to be fulfilling important educational needs, genuine and broadly based support from the institutional community, and have achieved or are well on the way to achieving a central place in the life of the institution. Those programs, which in our judgment, were either having considerable difficulty in establishing cooperative education as a viable force on campus or were in out-and-out danger of having the program disappear lacked, in each instance, one or more of these characteristics.

It must be emphasized that the criterion success, as evolved here, refers to the operating effectiveness of a program to the extent to which the program has become inserted into the structure of the institution. One test of this, which in our judgment is critical, is the likelihood of the program's continuance should the current director of cooperative education, for whatever reason, leave. Within the present context, success does not include measures of the extent to which specific educational objectives to be achieved by students are attained. Research into this important element of success is underway, but not a part of this report.

The analyses of program case studies and application of the paired comparison method provided the basis for creating three program groups: a group of stable, institutionalized programs (N = 15); a group of programs which are functioning reasonably well but have operational problems (N = 14); and a group of programs which have serious problems of survival (N = 5).

Correlates of Program Stability

The principal insights regarding program implementation and development, to be reported in the next section, were obtained by means of systematic examination of program and institutional characteristics following application of the method of paired comparisons. Hence, even though these insights were not explicitly derived until after the programs were ordered and studied, they most surely influenced the judging. Consequently, it could be argued the conclusions drawn about significant elements of program development are largely the explicit exposition of preconceptions. In fact, there is no way to escape the likelihood that to some degree, this occurred. It is an inherent limitation of the case study method.

As a check upon the validity of such judgments, it is important to have independent data which support the judgment. In this research, we have the questionnaire responses of students which were analyzed after the judgments of program success were made. Table 10 gives student questionnaire responses for each of three groups of programs: stable; operational problems; and survival problems.

These results show no essential difference among students in the three groups of programs regarding the certainty they felt about both their general fields of interest and their specific career choices before entering college. The one difference which approaches statistical significance is the percentage of students from programs which have serious survival problems expressing certainty of their career choices as compared to students from both stable programs and those with some operational problems. Similarly, there are no statistically reliable differences among the groups regarding the impact of the cooperative education program upon their general field of interest and specific career choices.

The question of after-graduation plans, however, did reveal differences. Students from stable programs and programs with some problems appear to be very similar in their plans for after graduation. Student plans from the programs having serious difficulties are significantly different; proportionally, more of them plan to work in a co-op derived job; fewer of them plan to continue their education; and more are undecided as to their plans. Differences among the student groups regarding their ten-year work expectations are not, however, reliable.

Although failing to meet customary confidence levels, there is a suggestion that students from stable programs, to a greater degree than

TABLE 10

Student Responses to Questionnaire Items by Cooperative Education Programs Judged to be Stable, to be Having Operational Problems, and to be Having Survival Problems

	Stable	Operational Problems	Survival Problems
Before entering college, my general field of interest was:			
Uncertain	28 (12.8%)	33 (17.4%)	7 (11.7%)
Somewhat certain	99 (45.2)	83 (43.7)	27 (45.0)
Certain	92 (42.0)	74 (38.9)	26 (43.3)
	X^2 = 2.240 d.f. = 4 P > .1		
Before entering college, my specific career choice was:			
Uncertain	72 (33.2%)	60 (31.6%)	17 (28.3%)
Somewhat certain	92 (42.4)	90 (47.4)	22 (36.7)
Certain	53 (24.4)	40 (21.0)	21 (35.0)
	X^2 = 4.651 d.f. = 2* P < .1		
	*Stable and Problem programs combined as a single group		
Due to my co-op experience, my general field of interest has been:			
Discovered	33 (15.5%)	36 (19.9%)	13 (21.7%)
Confirmed	148 (69.5)	121 (66.8)	39 (65.0)
Changed	32 (15.0)	24 (13.3)	8 (13.3)
	X^2 = 1.971 d.f. = 4 P > .1		
Due to my co-op experience, my specific career choice has been:			
Discovered	40 (20.2%)	45 (26.0%)	19 (33.9%)
Confirmed	115 (58.1)	89 (51.4)	27 (48.2)
Changed	43 (21.7)	39 (22.5)	10 (17.9)
	X^2 = 5.305 d.f. = 4 P > .1		
Upon graduation, I plan to:			
Work at a co-op derived job	66 (32.5%)	63 (32.1%)	20 (50.0%)
Work at a non co-op derived job	27 (13.3)	24 (12.2)	2 (5.0)
Further education	75 (36.9)	80 (40.8)	8 (20.0)
Undecided	35 (17.2)	29 (14.8)	10 (25.0)
	X^2 = 10.377 d.f. = 4* P < .02		
	*Stable and Problem programs combined as a single group		

TABLE 10 (Continued)

	Stable	Operational Problems	Survival Problems
Ten years from now, if working, I expect to achieve:			
A top-level position in my field	122 (56.5%)	96 (51.6%)	39 (65.0%)
Middle-level position in my field	54 (25.0)	62 (33.0)	16 (26.7)
Semi-professional status	19 (8.8)	12 (6.4)	2 (3.3)
A job	4 (1.9)	2 (1.1)	0 (0.0)
Part-time employment	2 (0.9)	2 (1.1)	0 (0.0)
Other	15 (6.9)	14 (7.4)	3 (5.0)
	X^2 = 8.601 d.f. = 10 P > .1		
Due to my co-op experience, my personal growth and social awareness have:			
Increased	205 (94.5%)	171 (90.0%)	52 (86.7%)
Decreased	0 (0.0)	2 (1.1)	0 (0.0)
Unchanged	12 (5.5)	17 (8.9)	8 (13.3)
	X^2 = 4.877 d.f. = 2* P < .1		
*Response categories, Decreased and Unchanged, were combined to form a single classification.			
Based on my knowledge of a traditional college education, co-op education is:			
More beneficial	184 (85.6%)	166 (87.4%)	47 (78.3%)
Less beneficial	2 (0.9)	1 (0.5)	0 (0.0)
As beneficial	29 (13.5)	23 (12.1)	13 (21.7)
	X^2 = 2.995 d.f. = 2* P > .1		
*Response categories, Less beneficial and As beneficial, were combined to form a single classification.			
In my judgment, co-op is:			
Too career oriented	2 (0.9%)	5 (2.7%)	2 (3.4%)
Not career oriented enough	23 (10.7)	34 (18.3)	12 (20.3)
As career oriented as it should be	189 (88.3)	147 (79.0)	45 (76.3)
	X^2 = 8.260 d.f. = 2* P < .02		
*Response categories Too career oriented and Not career oriented enough, were combined to form a single classification.			

TABLE 10 (Continued)

	Stable	Operational Problems	Survival Problems
In my judgment, the coop program is:			
Too flexible	6 (2.8%)	8 (4.4%)	3 (5.2%)
Not flexible enough	34 (15.9)	35 (19.1)	9 (15.5)
As flexible as it should be	174 (81.3)	140 (76.5)	46 (79.3)
	X^2 = 1.380 d.f. = 2* P > .1		
*Response categories Too flexible and Not flexible enough were combined to form a single classification.			
In the organization and functioning of the coop program, students are:			
Too involved	1 (0.5%)	2 (1.1%)	1 (1.7%)
Insufficiently involved	62 (29.1)	76 (42.9)	26 (44.1)
Sufficiently involved	150 (70.4)	99 (55.5)	32 (54.2)
	X^2 = 10.634 d.f. = 1* P < .01		
*Both the groups with operational problems and survival problems were combined to form a single group, and response categories Too involved and Insufficiently involved were combined to form a single classification.			
My appraisal of the contribution of each group in my educational experience:			
Coordinators			
Positive	175 (82.9%)	143 (76.5%)	45 (76.3%)
Negative	4 (1.9)	10 (5.3)	7 (11.9)
Neutral	32 (15.2)	34 (18.2)	7 (11.9)
	X^2 = 12.249 d.f. = 4 P < .02		
Faculty			
Positive	156 (70.6%)	124 (66.3%)	37 (64.9%)
Negative	10 (4.5)	6 (3.2)	1 (1.8)
Neutral	55 (24.9)	57 (30.5)	19 (33.3)
	X^2 = 3.235 d.f. = 4 P > .1		
Administrators			
Positive	94 (45.6%)	57 (31.0%)	26 (43.3%)
Negative	11 (5.3)	18 (9.8)	8 (13.3)
Neutral	101 (49.0)	109 (59.2)	26 (43.3)
	X^2 = 13.147 d.f. = 4 P < .02		

TABLE 10 (Continued)

	Stable	Operational Problems	Survival Problems
My appraisal of the contribution of each group in my educational experience:			
Employers			
Positive	181 (87.0%)	150 (78.5%)	49 (84.5%)
Negative	6 (2.9)	8 (4.2)	2 (3.4)
Neutral	21 (10.1)	33 (17.3)	7 (12.1)
	X^2 = 5.289 d.f. = 4 P > .1		
Other Students			
Positive	126 (60.6%)	113 (63.1%)	34 (58.6%)
Negative	8 (3.8)	5 (2.8)	3 (5.2)
Neutral	74 (35.6)	61 (34.1)	21 (36.2)
	X^2 = 1.028 d.f. = 4 P > .1		
Other Workers			
Positive	137 (66.2%)	148 (81.3%)	43 (74.1%)
Negative	6 (2.9)	5 (2.7)	1 (1.7)
Neutral	64 (30.9)	29 (15.9)	14 (24.1)
	X^2 = 12.351 d.f. = 4 P < .02		
My overall rating of the coop program is:			
Excellent	121 (57.3%)	93 (50.8%)	32 (52.5%)
Good	80 (37.9)	75 (41.0)	21 (34.4)
Fair	10 (4.7)	13 (7.1)	6 (9.8)
Poor	0 (0.0)	2 (1.1)	2 (3.3)
	X^2 = 5.340 d.f. = 2* P < .1		

*Response categories Excellent and Good, and Fair and Poor, were combined to form two classifications.

those from programs with operational and survival problems, perceive increased personal growth and social awareness as a result of their cooperative education work experience. There is even less reliability in the proportional differences regarding student assessment of the worth of cooperative education over traditional education.

With regard to their perceptions of the operation of their own cooperative education programs, more students from stable programs view

them as appropriately career directed, whereas more students from programs with survival problems see their programs as insufficiently career oriented. Similarly, students from successful programs more often see themselves as sufficiently involved in the functioning of their programs. The question of program flexibility showed no reliable group differences.

Student responses to the questionnaire statement: "My appraisal of the contribution of each group in my educational experience," revealed a number of statistically significant differences. Students from stable programs viewed coordinators and administrators more positively than did students from programs with operational or survival problems. On the other hand, students from stable programs viewed other workers on the cooperative job site less positively than did the other students. There is also some indication that the overall program assessment of students from stable programs was more positive than that of students from the other programs.

Although not all items of the student questionnaire differentiated the program groups, a number of evaluative items did provide substantial evidence that the staff's program "success" judgments were consistent with student perceptions of program functioning. We view these findings as external confirmation of the essential validity of our program judgments.

It is interesting to observe that no measurable relationship between program stability and program type was found. The value obtained from a Chi Square contingency table was 1.196. With six degrees of freedom, the probability that a value as great as this might be obtained by chance alone is greater than .30. This non-association between program type and program success is viewed as evidence that program stability and vitality are independent of an institution's programmatic approach to cooperative education.

Additional evidence of the independence of program type and program stability was found in the average rankings by students of perceived

cooperative education outcomes. Whereas the rank order of perceived outcomes revealed statistically reliable differences among the taxonomical groups, no differences in rank were found among the programs judged to be stable, having operational problems, or having survival problems. The F value obtained from a two-way analysis of variance was 1.410. The probability of this value occurring by chance alone is greater than .10.

Implementation of Cooperative Education

This section reports in detail insights into the elements of successful program implementation and operation which were extracted from case study protocols. The elements to be discussed are: program objectives; program plan; institutional commitment and support; and program staffing.

1. Program objectives. Statements of objectives serve to guide both the planning and implementation of programs. Our observations indicate that thoughtful reflection and careful delineation by a broad base of the institutional community on the objectives sought through cooperative education are vital to the development of a sound program. There are three important considerations in establishing program objectives. First, the objectives serve their function only if they are explicit and clear. Without exception, the programs comprising the stable group had definitively stated goals which were clearly verbalized by the cooperative education staffs. In addition, it was apparent that the programs were organized and operated with these goals as guides. To illustrate, one program which is well integrated into the institution has a carefully articulated set of program goals which focus upon career choice testing, developing

specific skills associated with career choice and the acquisition of knowledge about employer expectations. Helping students to achieve these goals has led the program personnel to the development of very clear and well-delineated relationships with their cooperative employers, including a set of "standard operating procedures," which clearly define the role of the employers in the cooperative education program.

On the other hand, among those programs having difficulties in developing and stabilizing the program, the objectives of several were unclear and/or diffuse. In one instance, for example, the program director was preoccupied, almost ritualistically, with the pursuit of a number of "rules" of cooperative education but had no clear notion as to what he hoped to achieve--other than observance of the "rules." As a consequence, the program was unresponsive to students, irksome to the faculty, and in danger of termination.

A second important aspect of program objectives is that they give high priority to cooperative education as a strategy of education. Institutions seek a variety of goals through cooperative education, including financial assistance for students and recruitment of new students. Our observations of program stability lead us to conclude that such goals are quite acceptable and in no way hinder the program, providing they are unequivocally subordinate to student learning goals. In the research sample, none of the programs actually gave a higher priority to non-learning objectives, but conversations with teaching faculty throughout the sample made it clear that any cooperative education program which failed to emphasize the education potential would not be supported. The significance of faculty support will be discussed in a later section of this chapter.

The third and last aspect of program objectives found to be significant by this research was the consistency with which specific program objectives were held by the cooperative education personnel, the faculty, and the administrators of the institution. Among the stable group of programs, these three groups without exception, agreed at least generally, on what the program goals were and should be. Among those with operational and survival problems, there were a number of examples of program personnel holding to one set of objectives (educational in nature), and the administration holding to another (student financial support). In one instance, the conflict was between the cooperative education staff which emphasized cultural and general education outcomes, and the faculty, which thought career competencies should be pursued. In another instance, the objectives of the cooperative education program (career development, positive attitudes to work), were at odds with the prevailing character and temperament of the institution as a whole. The institution historically attracted middle and upper-middleclass students. For the most part, they were not particularly career directed, and the institution conformed well to the image of an elite liberal arts college. In recent years, however, the student body has changed dramatically. It is now largely lower and lower-middle class, upwardly mobile and career-directed. The cooperative education program was conceived and instituted to serve the educational needs of this new constituency. The faculty, however, does not accept an altered college mission, and finds the existence of so blatantly practical a program as totally inappropriate.

In summary, program objectives have a substantial impact upon the insertion of cooperative education into the fiber of an institution. These objectives must be clear, focus upon student learning, and must be essentially agreed upon by administration, faculty, and cooperative education staff.

2. Program Planning. Cooperative education is an educational methodology characterized by having students engage in productive work as an integral part of their education. This conception implies the essential ingredients for cooperative education programs. Every cooperative education program requires a plan for:

- recruiting students into the program
- securing work situations
- getting student and job together
- establishing a mechanism to permit students a smooth re-entry into the classroom

Although there are other important considerations in planning a cooperative education program, such as whether or not credit should be awarded for the cooperative work experience, they are not essential to a functioning cooperative program and are, therefore, not discussed here. These additional elements of cooperative programs will be discussed in a later section of the report.

Every program of the research sample was guided by a plan of operation, but not all plans were equally effective. In our judgment, the principal reason that some plans were less effective is their failure to account adequately for the unique characteristics and needs of the institution of which they are a part. Each of the four ingredients will be discussed separately.

a. Recruiting students. One method for recruiting students into a cooperative education plan is to have a mandatory cooperative education program. Thus, if a student chooses a particular college or major, it is known before entering college that cooperative education is an integral part of that program. This is, in fact, what many of the older cooperative

education programs did. Eleven of the institutions in our sample have mandatory cooperative education programs. In these institutions, the Admissions Department plays a vital role, not only in using promotional literature and films to recruit students to cooperative education, but also in using cooperative education as a selling point for that institution.

In some contrast to the mandatory programs is the optional program. The special problem of optional programs, of course, is the necessity of developing plans to attract students. Contrary to what is often believed by persons first implementing cooperative education programs, students are not always attracted to cooperative education programs. The significance of our findings was not whether programs did or did not have a plan of action for recruiting students; rather, the data indicated that the more stable programs tended to use a greater variety of approaches and to give the impression of greater aggressiveness in their recruitment procedures. Virtually all programs used such formal and impersonal techniques as mass mailings to incoming students, assembly programs, and posters placed strategically around the campus. Among the more effective programs, however, cooperative education staff members worked closely with faculty, and periodically were invited into classes to discuss the program at length and informally with smaller groups of students. At these meetings, students were urged to make individual appointments with members of the cooperative education staff. Again, as the result of close working association between faculty and cooperative education staff, individual members of the faculty would urge students to investigate the program. These same programs also made use of students already in the cooperative education program to recruit other students by taking them into classes to describe their experiences, and by having them speak at various student groups.

One obvious plan to recruit students into optional cooperative education programs, but interestingly not followed by several of the seriously troubled programs, is to work closely with the admissions staff. The goal of this plan, of course, is to have the admissions officers inform prospective students and high school counselors about the program so that freshmen coming to the institution will already be aware of the program and perhaps even enroll at the institution because of the cooperative program. Some cooperative education departments have even developed brochures designed to answer parents' questions and allay their concerns about cooperative education. Preparation of appropriate brochures is essential and yet several of the troubled programs had made little effort in this direction. At one institution, the admissions office was unaware that a cooperative education program even existed.

There is one word of caution regarding the role of Admissions in promoting the cooperative education program. In one institution experiencing serious survival problems, the Admissions Department over-promoted cooperative education, leading to unreasonable expectations by incoming students. It is important that students be told both the likely benefits and the possible disappointments of cooperative education so that if, for example, a recession occurs and jobs are not easily found, students will not be disillusioned should they find themselves on a less relevant work assignment than they had expected.

Associated with the decision regarding the optional or mandatory nature of the program is the decision as to which curricula should offer cooperative education. Our data are far from conclusive on this point, but our strong impression is that programs have developed more soundly

and have been more readily supported within the institution if the program was planned and implemented first in a limited number of curricula. rather than throughout the entire institution.

b. Securing work situations. There are a number of factors to consider in finding appropriate cooperative education jobs: the location of the college; the nature and mobility of the student body; the curricula offering cooperative education; the operating mode of the program; and the program objectives. These factors are all important and interrelated, and should be considered in seeking cooperative jobs. For example, one of our sample institutions judged to have serious survival problems is located in a rural area, has a student body which is not desirous of relocating for cooperative jobs, and has an alternating program in several curricula for which there are no relevant job opportunities in the area. Obviously, it is difficult for a coordinator in this program to find relevant placements. On the other hand, another institution in the sample, one judged to have a stable program, is also located in a rural area, has a similarly provincial student body, but has a parallel program in curricula for which there are relevant jobs in the area. Securing relevant jobs is certainly easier for the coordinator in this program. The point is that it is necessary to take into account a number of factors prior to looking for cooperative education jobs.

There are many different methods for finding job leads. Program coordinators with several years' experience appreciated that one sure way of finding jobs was to "get out of the office and knock on doors." At some of the institutions in the research sample, faculty used some of their professional contacts as a means of helping coordinators find jobs. At other institutions, students provided leads and in some cases,

found their own job. Coordinators also used alumni contacts in job development. Many alumni are enthusiastic proponents of cooperative education and themselves become employers or supervisors of cooperative education students. A few of the colleges, especially the two-year institutions, worked closely with Advisory Councils made up of area employers. The members of the Council, whose overall goal is to work with the college and provide realistic career programs, were often invaluable aides in helping to secure cooperative placements.

Many coordinators tried other, less direct methods of finding cooperative education jobs. Some used mass mailings to prospective employers. Others wrote or telephoned employers whose names they had obtained through advertisements or trade journals. The Handbook of Cooperative Education[12] suggests coordinators might also pursue leads obtained by consulting the United States census report or by reviewing business and product directories.

There was some discussion among cooperative education directors and coordinators of some of the larger programs regarding the practice of having one coordinator act as a job developer and the remaining coordinators concentrate on student counseling and job placement. Some of the schools in the research sample used this approach successfully while others used, with equal success, the more traditional technique of having each coordinator responsible for developing his or her own jobs.

c. Getting student and job together. This is a principal element of the coordination function. All of the programs included in this research recognized and accepted this responsibility. The typical plan

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[12]Seaverns, Charles F., and Wooldridge, Roy L. "Coordination and Placement," in Handbook of Cooperative Education, by Asa S. Knowles and Associates (San Francisco: Jossey-Bass, Inc., 1971), p. 128.

was for coordinator and student to explore together the students' needs, desires, and qualifications, and to then make the best job match possible. The plan also customarily provided that for any given student and any given job possibility, both student and employer had the option of refusing to enter into an agreement.

Among student needs that a coordinator should assess are the student's willingness to relocate, financial needs, and both long-term goals and more immediate objectives for the cooperative term in question. In some of the institutions in the research sample, students were from an affluent background and were both able to and desirous of relocating for the cooperative period. In other schools, however, the student body was more provincial or was financially unable to relocate. The placement situations faced by each coordinator were very different.

In viewing cooperative education as an educational strategy, it is vital to determine the student's goals for the term. Does the student want a job to increase his or her drafting ability? Is the student's goal to learn the structure of a personnel department? Does the student wish to make contacts that would be useful in securing after-graduation employment in the field of fashion merchandising? The cooperative education coordinator must take these types of information into account in arriving at a suitable placement for the student. In some programs, the student, coordinator, and employer work together to create a learning contract, in order to ensure the attainment of specific student goals.

On the other hand, coordinators must also consider the needs of employers. Some employers prefer to interview a number of students for one cooperative work position. Others would rather the coordinator assess the students' qualifications and select the one candidate who is best qualified for the job. Certain employers may be able to pay high salaries

and others may not be able to pay any salary at all. These kinds of factors must be considered by the cooperative education coordinator.

A number of the institutions in the research sample did require their students to interview for cooperative jobs in order to help prepare them for job-hunting after graduation. In a few of these schools, the cooperative education department conducted classes or courses in interviewing techniques in order to assist students in their efforts. Classes were also held in resume preparation. This was useful both in interviewing for cooperative jobs and in preparing for post-graduation placement efforts.

d. Mechanism permitting students a smooth re-entry into classroom. The greatest amount of diversity among programs is found here. It was for this reason that a program taxonomy based upon operation-mode was found to be most useful. Our findings, as previously reported, gave no clue that one plan of moving students off and on campus is any more effective than another, bearing in mind that the criterion is program stability within the institution. What is important, however, is that there be a clear, definitive, and structured plan that enables students to leave the classroom for work and return without difficulty. Programs which had no specific plan, but rather, worked out individual accommodations tended to have operational difficulties, including student recruitment and limited faculty support.

3. Other Elements of Program Planning. There are other elements of program planning which were found in the research sample. While these elements are not necessary to the functioning of a cooperative education program, they are a positive force in the operation of a cooperative education program.

a. Credit. Perhaps the most common addition to cooperative education programs is the awarding of academic credit for the cooperative work experience. Forty-four percent of our research sample awarded non-additive credit. A review of the Cooperative Education Research Center's annual surveys of cooperative education programs across the country shows that the awarding of credit has become an increasingly frequent practice.[13]

Case study data showed a variety of rationale and methods used in the awarding of non-additive credit. In some institutions, credit is awarded by the teaching faculty. In these programs, credit is given for completion of a paper or project while the student is on a work term. This approach views cooperative education and the learning that takes place during the cooperative term, as similar to that which occurs in an independent study course. The role of the regular teaching faculty in institutions where credit is awarded will be discussed more fully in a later section of this chapter.

In other programs, the cooperative education coordinator was found to be responsible for awarding credit. In most of these institutions, the coordinator has faculty status. An employer evaluation, student participation in a related seminar, a student report or log, and the coordinators' evaluation of the students' work experience were used as a basis for evaluation in these programs. In a few programs, the cooperative education coordinator is also a member of the teaching faculty with released time to fulfill cooperative education responsibilities.

b. Seminar. The cooperative education seminar is generally held during the work term, usually in the late afternoon or evening and meets

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[13]The 1975 survey shows that 69.2 percent of the known cooperative education programs award non-additive credit.

once or twice a week. The purpose of the seminar is to assist in the career development of the student and to make the cooperative work experience a more meaningful one. For example, one of the more successful programs conducted a series of seminars which ranged from defining work values to specific exploration and research in a student's career choice. Another seminar series ranged from discussions on such basics as filling out a job application to more advanced topics such as human relations and supervisory development. In some of the seminar programs, the instructor brought in people working in the field to help clarify students' questions about their chosen career.

c. Advisory Council. In our research sample, advisory councils were found only in public colleges, especially the community colleges. Members of the council included representatives from the college and local businesses. The council members helped to promote cooperative education in the community, to provide some students with jobs, and, in some instances, to contribute financial support to the program. The council was, in at least two instances, a very important part of the college operation and played a significant role in molding the career curricula and the cooperative programs of these institutions. A similar effort made by the business community was encountered at another institution which received assistance in organizing and running their program from the National Alliance of Businessmen.

d. Responsiveness to change. Case study data indicated that the more stable programs of the sample demonstrate greater adaptability and willingness to change than those with serious problems. These programs impressed us as being more vital and dynamic. They periodically assessed their programs by such means as student questionnaires, and interviews with employers and faculty. More importantly, they acted

upon their evaluations. For example, one program, based upon its assessment of student attitudes and the labor market, decided to expand the cooperative education program from serving career and occupational areas only to the liberal arts. In another program, a career counseling component was added. Still another involved students in a substantial way in revising a cooperative education seminar series. On the other hand, a number of the programs with operating difficulties were static and essentially unresponsive to possibilities for positive change. For example, one program which had a particularly close relationship with a single industry, ignored student and staff urgings for examination and modification of that relationship. Both the relationship and the refusal to change were principal sources of operating difficulties. The desire to maintain the status quo can be, as in this instance, a severe detriment to the success of the cooperative education program.

4. Institutional Commitment. The extent to which an institution wants a cooperative program and its effectiveness in translating that desire into concrete support is vital to the development of a program. There are several significant sources of an institution's commitment to a program which were documented by this research.

a. The President. The single most important source of commitment appears to be that of the president of the institution. The level of his determination coupled with his effectiveness in causing curriculum change is critical. Each of the stable programs had strong and effective presidential support. On the contrary, each of the programs having problems had either very little support or ineffective support from the president. We observed three principal expressions of presidential

advocacy for cooperative education. These are found within three major presidential functions: making both public and institutional community statements concerning the mission and programs of the institution; establishing budgetary priorities; and administering the institution.

Presidents are frequently called upon to discuss the mission of their institutions and the programs that have been developed to fulfill that mission. Within this context they often have or can create, if they choose, opportunities to discuss the potential significance of cooperative education for the institution and its students. These opportunities occur both in the community at large and within the institution itself. The objectives to be achieved when addressing the larger community are, of course, to interpret the institution and to strengthen the relationships between them. Those presidents whom we interviewed and who were strongly supportive of their cooperative education programs reported they found describing and extoling the values of the program to be a particularly useful vehicle for furthering these goals. They further reported that such discussions before community groups often resulted in direct support of the program because local employers would become interested in the possibilities of their participation.

On those occasions in which presidents address faculty and other groups within the institution, their responsibilities often include reminding them of the institution's goals and making clear the relationship between on-going and planned programs to these goals. He must, in short, give the weight of his leadership to those programs he feels to be important to the mission and life of the institution. The evidence obtained from those programs which we judged most successful was that the president often seized opportunities, particularly with faculty groups,

to support cooperative education. In each case, it was clearly understood within the institution that the president was strongly supportive of the program. On the contrary, among the programs having serious problems, the president seldom, if ever, publicly mentioned the cooperative program.

The second, and probably the single most important way in which presidents support cooperative education is through the allocation of funds. It is not the intent here to discuss the amount of money that needs to be budgeted. This obviously is dependent both upon the nature of the program and geographic location of the institution. Our observations do suggest, however, that program stability is associated with a substantial portion (50 percent and more) of the total program budget coming from institutional sources. In a separate but related study, one of the staff examined, for a sample of programs having received terminal federal grants for program support, the relationship between the director's view of the likelihood of the program continuing without further grants of the same kind and a number of predictor variables.[14] Two of these variables have particular significance here. A correlation of .494 was obtained between director judgment of program continuation and the proportion of the institution's total cooperative education budget contributed by the institution, in distinction from the grant. Second, a strong association between the prediction of continuation and the anticipated source of further support was found. A correlation coefficient of .695 was obtained when reported sources of support were ordered from low to high as follows: (1) don't know; (2) other federal programs or private foundations; (3) a combination of these other external sources and institutional funds; and (4) institutional

[14]Wilson, James W. "Program Continuation After Federal Funding and Selected Program Variables." Journal of Cooperative Education, XI, 2, May, 1975.

funds. To be sure, these results apply to program director perceptions of continuation, but it seems a reasonable assumption that those perceptions relate positively to program stability. To the extent that this assumption is correct, these data provide an independent confirmation of the findings of this research. Institutional commitment to the cooperative education programs expressed in terms of financial support is a critical element in the successful development of programs.

Our case study data make clear the fact that the president's personal commitment to the program is of considerable importance to the final budget decision. Among the programs we found to be having serious surviving difficulties, there were also serious budget problems. It has been argued that in some instances, the institution, despite deep belief in the concept of cooperative education, cannot commit any of its resources to the cooperative education program. It is surely true that priorities need to be established when resources are limited. It is our conclusion that it makes no difference whether the institution cannot or will not commit financial support. Internal financial support is essential to the development of strong and stable programs.

The third kind of support which president can render to cooperative education is administrative authorization. Every program constituting the stable group was clearly in the mainstream of the institution's administrative structure. The cooperative education director was either part of the institution's decision-making staff (such as reporting directly to a provost or academic vice-president and meeting with councils of deans), or in direct communication with high-level decision-makers (such a reporting to the provost or vice-president, but not a part of the council of deans). Access to the decision-making process appears to be vital to the development and maintenance of cooperative education because of

budget and supporting policy needs. The cooperative education staff needs the opportunity to make their requirements known and, particularly, in light of restricted budgets, to be able to argue for them directly. Not being a part or having direct access to the decision-making apparatus of the institution was characteristic of many of the programs with operational and survival problems.

In addition to placing the cooperative education program into the mainstream of the administrative structure, the president can lend strong support to the formation of policies which will help to assure program success. For example, he can push for calendar reform if such is needed to make a cooperative program work; he can help to integrate cooperative work experience into the total academic program by advocating a policy on granting degree credit based upon student evidence of achievement; he can insist upon requisite courses being offered when needed by students returning from cooperative work assignments.

The president, particularly in smaller institutions, often directly participates in the hiring of faculty and staff. This is a further means of giving tangible support to the program. In one institution in our research sample, the president, who is an ardent supporter of cooperative education, saw to it that only faculty whose views and goals of education were consistent with cooperative education were hired. As would be expected, we found nothing but enthusiastic support for the program among the faculty.

Finally, it is essential that the president be able to evoke (if not already present) active support for cooperative education from among others of his administrative staff, particularly academic deans and department heads. They have important roles in adjusting curricula and

schedules to make the program function optimally and in encouraging participation of students.

In summary, our research observations lead us to conclude that positive and active support of the president is essential to the development of a stable program of cooperative education. In the programs we judged particularly successful, the presidents, without exception, strongly backed the program through sympathetic policies, and through general leadership. In contrast, in those programs having problems, especially those with survival problems, the president was either not especially concerned about the program or failed to give any substance to his statements of support. Of special significance is the fact that when the president is committed and personally involved himself in the support of the program, one is very much more likely to find evidence of support throughout the institution. As the staff observed and became aware of the significance of the permeation of support throughout the institution for the development of programs, they began to refer to the support as the *institutionalization of cooperative education*. We view institutionalization as the insertion or enmeshing of the program into the fibers of the institution.

b. The Faculty. Our findings lead us to conclude that faculty support of the cooperative education program is an important element in the stability of the program, and further, that it is likely to become increasingly important in the future. We found no instances in the research sample where faculty have the life-giving or life-withholding power of the top administration. We did find, however, that they have a substantial, and probably long-term effect upon the scope of the cooperative education program and the extent to which it may become an integral part of the academic programs of the institution.

There are several ways in which faculty can quite directly affect the course of program development. Faculty have frequent contacts with students and exert influence over their program planning. In the case of an optional program, they can and do influence student decision on whether or not to participate in cooperative education. Through departmental meetings and faculty senates, resolutions and policies positively or adversely affecting the cooperative program can be adopted. Some faculty conducted discussions of student work experiences and made efforts to relate these work experiences to the classwork. A number of faculty also regularly read student cooperative work reports in order to be better informed about what their students did while on work assignments. In several programs, faculty participated actively on cooperative education advisory councils. This sort of faculty involvement was more evident in the stable programs than in those having operational difficulties. It was totally absent from those few programs in grave danger of failing altogether. It should be noted also, that in only one instance did we find strong faculty support in the absence of equally strong support from the administration. In this one institution, the program has existed for years and is well established. Many of the faculty have been with the institution longer than the current administration and are much more committed to the program. The limited support given by the administration is causing difficulties for the program, but because it is well institutionalized, there is no present danger of its not surviving. Faculty attitude is a strong force in the program's effort to overcome administrative indifference. In our judgment, were the faculty not committed to the program, it would be in grave danger of being dismantled.

Not every stable and institutionalized program of the sample had involved faculty. For example, in another well-established program, the faculty generally expressed positive attitudes toward the program but continued to say that they really were not close to it. One faculty member expressed it this way: "We have two fine programs here--the academic program and the co-op program. They run along parallel with each other but don't interact." There was no feeling that the cooperative program was not sound, but there was clearly a feeling that more could be achieved if the cooperative education program and the academic program worked together.

A phenomenon associated with the rapid expansion of cooperative education, as previously noted, is the granting of credit based upon student participation in off-campus work programs. Although the intent of awarding credit for cooperative education has not been intended as a means of involving faculty in the program, that has been one of its major consequences. By long established tradition, awarding credit is a responsibility of faculty. Most take this responsibility seriously and are not about to relinquish it. Hence, faculty have become concerned about and involved in the practice of granting credit to students based upon the cooperative work assignments. It is because of their insistence upon a role in awarding credit that we believe faculty attitude will become an increasingly significant factor in the implementation and development of cooperative education programs.

As observed previously, we found very few faculty who oppose the idea of mixing work and study. Rather, the opposition we did find was directed toward particular policies, practices, or, in a few instances, members of the cooperative education staff. We observed the greatest negative response from faculty when the cooperative program had been given authority by the administration to award credit for student participation

and they, the faculty, had no input. On the other hand, at several of the institutions we visited, teaching faculty and cooperative education staff worked in concert to help students set goals, locate work assignments, assess learning, and award credit. Faculty attitudes toward cooperative education at these programs was very positive.

c. Other Administrators. There are numerous administrators within an institution with whom cooperative education staff members find it advantageous or even necessary to interact. For example, they interact with the registrar to be sure that the status of a student is clear when leaving for a work assignment; with the housing director when a residential student must vacate a room to take work on an assignment located away from the institution; or with staff of a counseling center to arrange for career testing or specialized counseling. Our case study findings indicate that close association with the admissions and financial aid directors is linked to program stability. The Admissions Office, as previously noted, can contribute greatly to publicizing the program to prospective students, and financial aid officers can be helpful in assisting students with a total financial aid package in which cooperative work is one element.

Cooperative education staff members, in many of the sample institutions, also worked closely with the Graduate Placement Department. Again, this was less likely to occur in the programs with survival problems. In some of the stable programs, the Graduate Placement Office was actually a part of the cooperative education department and thus placement efforts on all levels were well coordinated.

In none of the programs facing the real possibility of extinction was there any apparent effort made to work with these other on-campus

groups. In contrast, the stable programs regularly worked with these groups.

5. The Cooperative Education Staff. Two aspects of program staffing were found to be associated with program stability: adequacy of the number of staff; and staff competency.

a. Adequacy of staff size. The responsibilities of a cooperative education coordinator, even in a well-established and efficiently operating program, are numerous, varied, and time-consuming: they must counsel with students in preparation for identifying suitable work experiences; they must develop and maintain cooperative relationships with employers; they must monitor the work experiences of students; they must conduct post-work counseling or debriefing sessions with students and assess the learning achieved through the work experience. For newly implemented programs, the total task is further complicated by the additional needs to establish functional relationships within the institution, to develop brochures and other materials, and often, to learn what cooperative education is all about. In view of these additional responsibilities, the cooperative education staff may quickly achieve the upper limit of the student load they can effectively handle.

Too many conditions affect the load that a coordinator or director can handle to permit suggesting a student load that would be appropriate for all programs. As already noted, the level of program development will affect the number of students that may be worked with effectively. Of significance also, is whether job possibilities exist locally or whether substantial distances must be traveled, whether the participating students are in high demand curricula, whether the turnover of jobs among students is considerable, whether the program focuses attention upon the

development of individual learning contracts and formal assessment of learning following the work experience. There are other influencing factors as well, but these examples suffice to suggest that a single ideal load figure cannot be set, and there is considerable variability of loads throughout the population of programs.

Nonetheless, we observed instances of what we considered overloading and it was inversely related to program stability. The greatest understaffing for cooperative education we observed was that which occurred when the director/coordinator had to divide his or her time between the cooperative education program and one or more other major responsibilities. Although adequacy of staffing does not assure a successful program, insufficient manpower can clearly retard its development.

b. Staff Competency. *Competence* must be described within the context of the research findings and the complex of tasks to be performed by cooperative education coordinators. Our observations have led us to conclude that the following are particularly important elements of competency in program coordinators:

- Have a clear, orderly, and definitive plan for the cooperative education program with both immediate and longer-range goals and be enthusiastically committed to the plan.
- be able to relate to, and win acceptance by, and interpret the program to faculty, administrators, and auxiliary services staffs, such as admissions, financial aid, and alumni placement.
- be able to relate to and sell the program and participating students to employers.
- be persistent in efforts to attract students, obtain work situations, and persuade the various participants of cooperative education of its merits.

- be able and willing to try a variety of approaches to achieve the above and never expect to find the one and final answer to any of them.

It is because of this diversity of tasks and personal qualities that the coordinator's job is complex, demanding, and said to be the key to the success of the program. In larger programs with more than one professional staff person, some division of labor is possible. Not so, however, in programs just being initiated. Typically, these have one director/coordinator who must do it all. To cite a negative example, in one program having serious difficulty, the coordinator would be ranked low on each of these items--unable to organize a plan of action; unable to relate effectively with any of the constituent groups; unable to flexibly try varied techniques to attract students; and was physically unable to handle a full work load. On the other hand, we met many able persons who, although they may not rank high on every one of the above points, could perform their varied tasks. Their efforts showed in the positive development of their programs.

CHAPTER SIX

CONCLUSIONS AND IMPLICATIONS

The preceding chapters have reported the motivation, the design, and the findings of this research into cooperative education program implementation. The intent of this chapter is to summarize the conclusions of the research, presenting them in the form of guidelines for those who would initiate or strengthen programs of cooperative education.

The criterion upon which these guidelines are based is the stability of the cooperative education program as a functional element of the institution. This is a criterion of program institutionalization whereby the program becomes an integral feature of the institution's educational plan. For the purposes of this research, the sample of 34 participating cooperative education programs was divided into three groups based upon this criterion of program stability. The three groups of programs were: those judged to be stable; those judged to have operational problems; and those judged to have serious problems of survival. Programs in each of these groups were compared both within groups and across groups in order to discover and illuminate ingredients important to the planning and implementation of stable cooperative education programs. Results of these comparisons constitute the base for the conclusions to be discussed here.

The conclusions of this research range from a discussion of the factors involved in the initial decision to initiate a cooperative education program to the actual implementation of that program. In

order to make a clear and orderly presentation of our conclusions, the guidelines will be organized by major headings, such as, "The Decision to Initiate a Cooperative Education Program," and then subheadings, such as, "Ability of the Institution to Support a Cooperative Education Program." Due to the interrelationships among the many factors involved in planning and implementing a cooperative education program, it will be necessary to refer to some factors in more than one section of the guidelines. Thus, for example, while a discussion of program objectives and a discussion of program support by faculty are essentially different elements involved in program planning and implementation and are discussed separately, there is nonetheless an important relationship between the two which must be examined.

The Decision to Initiate A Cooperative Education Program

The decision to initiate a program of cooperative education is seldom made without concurrently developing a plan for implementing that program. Nonetheless, the decision to initiate a cooperative program is treated here as a separate and first step in program development. Three conclusions of this research, each of which relates closely to the decision to initiate a stable program are: (1) there must be strong institutional commitment to the idea of cooperative education and the plan to implement a program; (2) cooperative education must be conceived and planned as an educational methodology; and (3) the institution must be able financially to support a program of cooperative education. The following paragraphs elaborate upon each of these conclusions.

1. Institutional Commitment. During the course of this research, the staff concluded that the process of developing a strong and vital

cooperative education program necessarily precipitates changes throughout the institution. Areas of likely change include the institutional calendar, the organization of the curriculum, the practices of recruiting students, the financial aid policies, and the budget priorities of the institution. We conclude that if an institution is to develop a strong, vital and institutionalized program of cooperative education, it must, through its leadership, be willing and able to change.

Two observations by Heferlin on the processes of institutional reform are especially pertinent in this regard. First, he noted that, ". . . in organizations, advocacy is essential for change. An advocate wins others to his point of view, championing a vision of reality as yet unrealized, serving as the spearhead of social change. . ."[15] Although not necessarily an institution's first advocate for cooperative education, the president must become an advocate for the program if it is to have any real chance for success. This will only occur, according to Heferlin, ". . . when the expected reward of change outweighs the reward of stability. Both in the individual and the organization, change is accepted when it seems the least of all possible evils and more desirable than any other alternative. Without the motivation of perceived benefit--prestige, economic return, enhanced self-image--it will not occur."[16] Within the context of these observations by Heferlin, and based upon our own case study observations, we conclude that the decision to initiate a program of cooperative education is best made on pragmatic or functional grounds, for example, to better serve the educational needs of the students within a non-prohibitive cost ratio; to serve the

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[15]Heferlin, J. B. Lon, Dynamics of Academic Reform (San Francisco: Jossey-Bass Inc., 1969), p. 20.

[16]Ibid., p. 19.

financial needs of students; to better relate the institution to the business and industry of the community, and thereby enhance the institution's potential for financial gifts; or to better recruit student through the offering of a unique education program.

Since the decision to develop a program of cooperative education is generally made at the highest administrative level of the institution, we would advise the principal advocate for the initiation of a cooperative education program to have statements of potential benefit to the institution clearly delineated. For this purpose, we refer the reader to existing literature on cooperative education and suggest as a good starting point, Handbook of Cooperative Education,[17] Cooperative Education in the Community College,[18] and past and current issues of the Journal of Cooperative Education.[19]

Since the top administration of an institution, especially the president, has such a vital influence on the development of a cooperative education program we offer the following suggestions which, based upon our research, we believe will positively contribute to the development of a sound but stable program:

a. The president should make his commitment to and support of cooperative education public knowledge within the institution, periodically reminding the faculty and administrators of the values which may accrue to students and to the institution. In this regard, we observed, as have others, that teaching faculty are more persuaded to support a pro-

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[17]Knowles, Asa S., et al, Handbook of Cooperative Education (San Francisco: Jossey-Bass, Inc., 1973).

[18]Heerman, Barry, Cooperative Education in the Community College, (Jossey-Bass, Inc., 1973).

[19]Heinemann, Harry N., ed. Journal of Cooperative Education (Long Island City, New York).

they are assured of its educational merit. They are less likely to endorse and support a program which they view as being designed solely to serve the economic needs of the institution and which gives the appearance of being educationally irrelevant.

b. The president must allocate sufficient funds in order to employ enough competent staff members to carry out the task of program planning and initiation. Funding must also include monies for office operation, for travel to secure cooperative work assignments, to attend training programs and cooperative education conferences, and for consultant services.

c. The president should place the cooperative education office or department within the mainstream of the institution's administration. We specifically recommend that if the cooperative education program is to function throughout the institution, that the director report to the academic vice-president or provost, and that if it is to be a function within a specific college or academic unit of the institution, that the director report to the dean of that college. The basic reason for suggesting this line of administrative reporting is to foster interaction with other academic administrators in the institution.

d. The president must be alert to opportunities to insure the continued development and existence of the program by means of policies designed to support it. Policies such as awarding credit for learning based upon cooperative education work experience, insisting that all new curricula to be developed at the institution be examined for the possibility of participating in cooperative education, ensuring that there will be no registration problems for students returning to campus from a cooperative job, pressing for a mandatory program of cooperative education, insisting that cooperative education be used as a selling point for the institution,

are examples of the kinds of policies which give strong impetus to the development of cooperative education.

2. Conception of Cooperative Education. It is clear from our research findings that cooperative education can be used as an effective response to a variety of institutional problems and concerns: for example, providing financial aid to students; relating the institution to the local community of which it is a part; utilizing plant and faculty resources more effectively; providing after-graduation job contacts for students; and attracting new students to the institution. We conclude, however, that if a cooperative education program is to become a strong and vital part of the institution, it must be conceived and planned principally as an educational methodology. There are two reasons for this conclusion. The first reason is philosophic in nature and observes that if cooperative education is deserving of its name, it must necessarily be an educational scheme. The second reason is empirically based. Our discussions with faculty at each of the sample institutions made it clear that sustained faculty support for cooperative education could be possible only if the program were primarily for educational purposes.

3. Ability of the Institution to Support a Cooperative Education Program. We have concluded that in order to achieve a vital program of cooperative education, the institution must be willing to allocate sufficient funds to its support. This comment assumes that the institution has those funds to allocate, or can make the program self-sufficient. It has been demonstrated that if certain conditions are met, within a span of as few as five years, it might be possible for a program of cooperative education to become self-sufficient.[20] The conditions necessary are total

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[20]Knowles, Asa S., and Wooldridge, Roy, "The Adoption of Cooperative Education," in Handbook of Cooperative Education, Asa S. Knowles, et al. (San Francisco: Jossey-Bass, Inc., 1971) pp. 287-316.

institutional commitment to cooperative education (mandatory for all students) and recruitment of new tuition-paying students to take the on campus place of cooping students. During the recent period of greatest expansion of cooperative education, however, these conditions necessary for achieving this self-sufficient status have been essentially inoperative. Programs have been optional in character for the most part, meaning that both cooperative and non-cooperative programs must operate simultaneously. In addition, the numbers of students being admitted to institutions of higher learning in the last few years has plateaued. Hence, institutions must face the likely prospect of not being able to make the program self-sufficient and of having to continue to support a program of cooperative education from existing sources of income within the institution or from external sources. In many instances, external sources of funding are either from private foundations or from the Federal government. In either event, there are restrictions as to the number of available grants. Hence, institutions are again faced with the necessity of developing a plan for absorbing the costs of program operations. Those institutions which do receive funds from external sources must have the foresight to include in their plans alternate means of financial support following cessation of funding or a plan for gradual absorption of costs by the institution.

One of the principal means by which institutions seek to recover some of the program costs is to charge a cooperative education fee which is levied upon students each work period. Alternatively, one of the principal reasons that institutions have considered and in fact, granted academic credit for student participation in cooperative education, is that they may charge tuition or seek reimbursement for faculty time spent

participating in the program. Some institutions, while not charging a separate fee for participation in the cooperative education program, do incorporate program costs into the regular tuition paid by all students. This generally, however, is done only in institutions operating mandatory programs.

Our strong advice to institutions considering the initiation of a program of cooperative education is that as part of the decision-making process, it is important to develop strong institutional support for the concept of an instructional method which involves students in productive work experiences, and to simultaneously develop a plan for the financing of this program over a period of at least five years.

The Planning and Implementation of Cooperative Education

In the development of programs of cooperative education, as in the development of any educational program or curriculum, there is a planning phase and an implementation phase. These are two distinct developmental periods, the first being characterized by fact finding and deliberation, and the second by overt action. They, of course, are sequential periods in the development of a cooperative education program. Despite the fact that the planning and implementation of a cooperative education program are distinct developmental phases, they were so interrelated within the programs that we studied, that the comments we would make about each phase are very much the same. Hence, they will be discussed here as a single unit. The only point we would make regarding the developmental process which moves from planning to implementation is that the intent of a plan is to provide a clear blueprint, whereas the function of implementation is to render that blueprint.

1. Program objectives. Based upon our research, we draw three conclusions regarding cooperative education program objectives. We conclude that the first and principal objective of a cooperative education program must be educational in nature. Other objectives relating to the student, to the institution, to the community, or to society, though often important and obtainable, must be secondary to student learning objectives.

Our second conclusion is that there must be consistency among those groups involved in cooperative education as to the objectives that the cooperative education program is to attain. It is vital that cooperative education personnel, faculty, students, and administrators agree on the program goals. One means of achieving this consistency is via a cooperative education advisory council, whereby representatives from all the groups involved in cooperative education can meet and agree on a set of objectives, and the best methods for reaching these objectives.

Our third conclusion relates to the second; there must be broad-based acceptance of the program objectives. Even those groups in an institution which are not active participants in the cooperative education program should, ideally, agree with the program objectives. It is important in this regard that program objectives be clearly and explicitly stated.

2. Broad-Based Participation in Program Planning. The conclusions drawn above regarding the importance of objectives being agreed to and consistently held by various institutional groups applies as well to all aspects of program planning and its subsequent implementation. Much has been made of the importance of institutional commitment and support for the program if it is to become a vital part of an institution. We

conclude that support can be best achieved when the several groups who will directly participate in the program or be affected by it, take part in its planning. This includes academic administration; student personnel administration; teaching faculty; students; where possible, employers; and those who will be charged with operating the program.

3. Choice of Operating Mode. This research developed a taxonomy of cooperative education programs based upon their principal mode of operation. Four program types were identified: alternating mode; field mode; parallel mode; and extended-day mode. There are institutional and student characteristics associated with each of these program types.

a. Alternating mode. Students alternate periods of full-time school with periods of full-time work of approximately equal duration. It is a common practice in alternating programs, particularly for students working on discipline-related jobs, for students to return to their cooperative employer on successive terms. It is also the case that employment is generally paid.

Alternating programs are most frequently found in baccalaureate-degree institutions. The alternating plan was the original implementing scheme for cooperative education and is, today, still the most frequently used mode of operation. The program objective for alternating programs is generally student career development.

b. Field mode. Participating students leave the campus for work assignments as a group during a specified period of time, not more than once a year in a given academic year. In contrast to the alternating mode, it is more common for students in this type of program to not return to an employer on successive field periods. Employment may be paid or voluntary but, more frequently than for any of the other program types, voluntary jobs are used.

Field programs are generally found in baccalaureate-degree institutions and in liberal arts curricula. If non-additive credit is awarded for the field period experience, it is usually awarded by the teaching faculty. Program objectives may be career development or personal development.

c. Parallel mode. Participating students attend classes during one segment of the day and work part-time during another segment of the same day. Jobs are, because of the nature of the program, located within commuting distance of the college and are generally paid employment. Students usually work on discipline-related jobs and return to their cooperative employer on successive terms.

Parallel programs are likely to be found in public associate-degree institutions. They are strongly oriented toward the career development of the student.

d. Extended-day mode. Students attend classes on a part-time basis, typically during the evening hours, and work part-time or full-time, usually during the day. This mode tends to attract an older group of students who are interested in additional education for upward mobility and self-development. There is some question as to whether this is, in fact, a cooperative education program type. The principal question relates to the fact the the institution's traditional responsibility for finding appropriate work assignments is often missing in this mode.

The institutional decision as to which operating mode will be adopted or, in some cases, which combination of modes will be adopted, is dependent upon the characteristics of that institution. There are constraints placed upon a program, no matter which operating mode is chosen. Such characteristics as the location of the institution, the nature and mobility of the student body, the program objectives, and the type of curricula

offering cooperative education affect the choice of operating mode. The following discussion outlines the particular constraints placed upon alternating, field, and parallel programs.[21]

(1) Alternating. An alternating program, by definition, requires the cooperative education student body to be divided into two groups. While one group of students is working on a cooperative assignment, the other is in school. This system is designed to guarantee an employer continuous job coverage. In order for an alternating program to function successfully, there must be sufficient student participation to assure employers of this job coverage. This is important to employers, not only because it ensures them of having a job performed continuously, but also because it gives them an opportunity to consider a student over an extended period of time for possible after-graduation employment. Thus, optional programs may experience difficulty in this regard due to the uncertain numbers of students participating in the cooperative education program. This difficulty can be overcome by careful coordinator management of the number of jobs and students. An optional alternating program may present other problems. If employers have a rapid turnover of cooperative education students, then employers may be less likely to develop detailed and sequential cooperative education work training programs. In order to avoid these problems, optional alternating programs must be particularly concerned with recruitment of students to their cooperative program. While our research demonstrates that optional alternating programs can work as well as mandatory alternating programs, it is important to be aware of the constraints of the former in order to be able to overcome them.

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[21]Extended-day programs are not discussed here due to the limited number of programs studied.

Although most alternating programs are found in baccalaureate-degree institutions, our research shows they can succeed in associate-degree institutions as well. Similarly, although alternating programs have traditionally been utilized in business and engineering curricula, they can succeed in liberal arts programs. There can be more difficulty, however, in securing discipline-related liberal arts cooperative assignments.

Another problem encountered by alternating programs is the need to assure students returning from cooperative work assignments that their required courses will be offered in the proper sequence. Although there are a number of solutions to this problem, such as offering a required course twice within a given academic year so that both groups of cooperative students can take the course, the institution must consider this factor in selecting a cooperative program type.

(2) Field. Field programs, because they involve but one placement a year, often cannot secure paid employment. Consequently, the participating students must have some other means of financial support during their field period. This factor should be considered by those institutions who have as one of their program goals, financial assistance to their students.

The lack of employment continuity in a field program has other effects on the nature of employment possibilities. Because students are only working for one period, jobs may be less challenging or offer less responsibility than in other types of cooperative programs. In addition, employers do not have the opportunity, as they do with students in the alternating programs, to assess and attract students for full-time after-graduation employment. On the other hand, a field program may be ideal

for students in curricula where there are discipline-related jobs available in businesses which experience seasonal flux. Thus, a retailing program which has a field period that occurs during the Christmas season should have adequate placement possibilities.

If financial remuneration and after-graduation job contacts do not matter to participating students, there is then the flexibility of choosing voluntary field assignments which may be of great value to these students.

The field program is an ideal mode of operation for those institutions whose primary objective for students is to increase their personal development. The field plan would be less suitable for engineering majors, as the possibility of finding a discipline-related one-term assignment is limited.

(3) Parallel mode. This program type is frequently used to attract students who are already working part-time while going to college on their own non-discipline-related jobs. The parallel program answers students' financial needs and enriches their curricula by offering a continuous source of part-time income and an opportunity for discipline-related work experience. As is the case with the alternating plan, it also offers students direct contacts for full-time after-graduation employment. The main limitation of the parallel program is that it requires employment possibilities to be within reasonable commuting distance of the school.

There are advantages and disadvantages to each of the program modes, as was just described. Once an operating mode has been chosen, however, the institution must show its commitment to that plan by making any necessary changes to insure the success of that program.

In addition to the choice of program type, there are other operational decisions which must be made prior to the implementation of a cooperative education program. Decisions such as which curricula will offer cooperative education, whether to have a mandatory or optional program, whether or not the academic calendar should be changed, how many cooperative terms will be required, or whether or not a minimum GPA is required for participation in the program should be made before program implementation is begun.

4. Staffing. This research identified two elements of cooperative education program staffing which must be considered. The first is the adequacy of the number of staff persons for the task to be accomplished. We were not able to suggest any precise ratios of coordinators to students, or number of staff persons that should be assigned to the cooperative education program, but we were able to conclude that the task of administering and coordinating a cooperative education program requires full-time staff members. Although the cooperative education program at a given institution may involve teaching faculty as cooperative education counselors or advisors on a part-time basis, we recommend that those persons charged with responsibility for coordinating and administering the cooperative education program be assigned to this task on a full-time basis. The obvious reason for this is to avoid competition for the individual's time, and thereby making it more likely that sufficient attention will be devoted to the program.

The second element of program staffing that emerged as important was the personal characteristics of the coordinator. In most programs, the coordinator's responsibilities are diverse. They include career counseling of students, assisting in the preparation of students'

learning objectives to be achieved through work assignments, attracting students into the program, developing appropriate work assignments, relating to a variety of administrative and faculty offices in the institution, developing brochures and other promotional materials for the program, and managing the program. Defining the personal qualities that a person should possess to fulfill these diverse responsibilities is, at best, an imprecise undertaking. Nonetheless, we conclude that, in general, efforts should be made to select persons who are student-oriented, relate well in interpersonal situations, are diligent, are able to work independently, are able to organize their own schedules and work within them, are resourceful, resilient, and able to work under pressure. In general, we would recommend that persons be considered for the position of coordinator who either have a faculty appointment or would be acceptable as a member of the faculty, and who have spent one or more years working in the field.

Two responsibilities of the coordinating staff deserve special mention and demonstrate the need for a resourceful, diligent, and independent staff. The two responsibilities referred to are those of attracting students to the program and developing meaningful work assignments for students. If either of these responsibilities is not successfully accomplished, the cooperative education program cannot survive. The vast majority of the cooperative education programs which have developed over the past several years have been optional programs to which students must be attracted. Most programs have found student recruitment to be a difficult task. We conclude from our research that this task can be accomplished only by multiple approaches. These approaches would include not only the formal kinds of announcements

that one might obtain through posters, student newspapers, letters and brochures to incoming students, and orientation assemblies, but also by more informal efforts such as contacting small groups of students in classroom settings, using students who have already participated in the cooperative education program to talk with their fellow students, and cooperative department open-houses. Of particular value in the recruitment of students into optional cooperative education programs is a good working relationship with the admission office. Every effort should be made to recruit students to the institution who enroll because of the cooperative education program.

The second responsibility of great importance, which demands continuous effort, is the development and maintenance of cooperative education work assignments. Although many programs use, with some success, mass letters and attractively designed brochures to interest prospective employers, we conclude that the single most effective approach is personal contact between the coordinator and the prospective employer. Trying to develop new work assignments, particularly in time of economic recession, is discouraging, but the conclusion based upon our case studies is that the only effective approach is continued diligence and resiliency on the part of the coordinator.

5. Relationships to Other Administrators. One of the principal conclusions of this research is that a strong and institutionalized program of cooperative education rests upon broad and enthusiastic support within the institution. A correlary of that conclusion is that the cooperative education program cannot function independently of other institutional offices. Those offices which have been particularly cited include the admissions office, the financial aid office, the senior and

alumni placement office, the registrar's office, and faculty offices throughout the institution. Each of these units of the college or university can, and in successful programs do, make significant contributions. It is, in our judgment, vital that the staff of the cooperative education program cultivate working relationships in each of these areas. It is also important for the cooperative education program, in order to develop and maintain a broad base of support throughout the institution, to communicate with and relate to as many of the college's offices and departments as possible.

Special Considerations and Issues of Cooperative Education Program Planning and Implementation

As already noted, the essential ingredients of a cooperative education program include students, jobs, a means of getting the students and the jobs together, and a means of getting the student back into the classroom. There are, however, a number of additional considerations and issues which, although not critical to the existence of a cooperative education program, are nonetheless important and worthy of attention. Three of these special issues were identified in the course of the research.

1. Academic Credit for Cooperative Education. It is not the intent of this report to argue the merits or the problems of granting credit for participation in cooperative education. We note that awarding credit is becoming an increasingly common practice. We further note and conclude that if a program is to obtain the support of the teaching faculty and, hence, achieve one of the significant elements of program stability, the teaching faculty must be a party to the decision to grant credit. We conclude further that the criteria for the granting of credit should be

a collaborative effort between members of the cooperative education staff and the teaching staff.

2. Seminars and Courses. The practice of incorporating cooperative work related seminars into the curricula can be a valuable addition to the cooperative education program. To insure a successful seminar, the student should be able to see a direct relationship among the seminar or course material, the cooperative job, and his or her career development.

3. Advisory Councils. The use of employer advisory councils, particularly in a community college setting, can be very useful in the promotion of cooperative education in the local business community, and in securing active employer participation in the cooperative education program. Of special value is employer input as a guide to curriculum development and revision.

The Vital Cooperative Education Program

This research has led to a substantial number of conclusions regarding the development of vital and stable cooperative education programs. The ingredients include institutional commitment to the concept of cooperative education, the specification of and wide-spread agreement to program objectives which are principally educational in nature, the need to adapt the cooperative education program to one's particular institutional characteristics, the broad-based planning of the program, the need for adequate and qualified staff, and the importance of cooperative and collaborative interaction between the cooperative education program and other areas of the institution. A further conclusion regarding vital programs is that these programs should be continually assessing themselves and adapting to new demands in the

institution and the society. In brief, this report on the development of cooperative education ends where it began. We asserted that only institutions which were willing and able to meet new challenges and to adapt to change could develop viable programs of cooperative education. The corollary of this conclusion is that once established, only those program which can meet and respond positively to demands for further change will continue as vital and institutionalized programs.

APPENDICES

APPENDIX A

COOPERATIVE EDUCATION PROGRAM OBJECTIVES MATRIX

I. Student Learning Objectives

	Career Development	Personal Development	Social Development
Cognitive			
Affective			
Psychomotor			

II. Student Support Objectives

A. Financial Aid

B. Graduate Placement

III. Institutional Benefit Objectives

A. Utilization of resources

B. Student recruitment

C. Curriculum revision

D. Community relations

E. Faculty development and enrichment

APPENDIX B

ADMINISTRATOR AND FACULTY INTERVIEW GUIDELINE

I. Purposes and Objectives

A. Reason institution turned to cooperative education

1. benefits to be derived
2. impact on various aspects of the institution, such as curriculum, recruitment and admissions, teaching, calendar, community relations, effective use of university resources

B. Specific objectives of the coop program

1. degree to which these are met
2. specific concepts that gave rise to the objectives
3. relationship to student objectives
4. possible diversity of objectives depending on curricula

II. Initial Introduction

A. Consideration of cooperative education

1. individual responsible for introduction of concept
2. method adopted for introduction and review to university
3. reaction of administration, faculty, students
   a. groups in support and opposition
   b. methods of handling support and opposition
4. method of funding (initial-current)

B. Planning the cooperative education program

1. individuals involved--consultants, administration, faculty, students--how and why each group was involved--? use of university committees, training workshops
2. possible stumbling blocks which arose and method of handling issue of academic credit
3. time-table adopted (is a copy of proposal and timetable available?)

C. Institutional flexibility

1. degree institution is open to change
2. amount of discretion afforded to individuals

D. Initial operation

1. choice of staff--qualifications for each position and functions
2. initial recruitment of students and jobs
3. major stumbling blocks

III. Present Organization and Operation

A. Structure of department and responsibilities of staff

1. interrelationship of members of staff with teaching faculty as well as various other areas of the university (such as financial aid, graduate placement, counseling--career counseling and testing specifically, admissions)
2. specific information regarding nature of coordinators' job--approximate time expenditure, task assistance, status of coordinator (re: tenure, rank, promotion, etc.), and training of coordinator
   a. students--load, relationship with students, method of operation, interview procedures, effect of coop on attitude, use of any standardized tests, special efforts regarding women and minorities
   b. placements--method of job referrals, criteria used, problems, question of relocation
   c. insuring a meaningful job experience--degree of relationship, method (contract?), evaluation methods, student requirements
   d. employment--method of job development, location of jobs (percentages), companies (types, percentages, number, and location)
   e. other responsibilities (meetings, teaching)

B. Integration of coop with curriculum

1. academic credit
2. policy regarding tuition and fees
3. course set-up to insure proper progression upon return to university
4. introduction of new faculty to coop

C. Current coop situation

1. administration, faculty, student reaction (especially explore the faculty-coordinator relationship)
2. ongoing plans for future growth and development of program
3. self-evaluation of program
4. cost analysis coop program

APPENDIX C

STUDENT COOPERATIVE EDUCATION QUESTIONNAIRE

In each case, check the single choice which best indicates your appraisal of your experience:

1. Before entering college, my general field of interest was:

_____Uncertain
_____Somewhat certain
_____Certain

2. Before entering college, my specific career choice was:

_____Uncertain
_____Somewhat certain
_____Certain

3 Due to my coop experience, my general field of interest has been:

_____Discovered
_____Confirmed
_____Changed

4. Due to my coop experience, my specific career choice has been:

_____Discovered
_____Confirmed
_____Changed

5. Due to my coop experience, my career ambitions and commitment are now:

_____Lowered
_____Raised
_____Same

6. Upon graduation, I plan to:

_____work full-time at a coop-derived job
_____work part-time at a coop-derived job
_____work at a non coop-derived job
_____obtain additional education
_____undecided
_____other (please specify)

7. Ten years from now, if working, I expect to achieve:

_____Top-level position in my field
_____Middle-level position in my field
_____Semi-professional status
_____A job
_____Part-time employment
_____Other plan (please specify)

8. Due to my coop experience, my personal growth and social awareness have been:

_____Increased
_____Decreased
_____Unchanged

9. Based on my knowledge of a traditional college education, a coop education is:

_____More beneficial
_____Less beneficial
_____As beneficial

10. In my judgment, the coop program is:

_____too career-oriented
_____not career-oriented enough
_____as career-oriented as it should be

11. In my judgment, the coop program is:

_____too flexible
_____not flexible enough
_____as flexible as it should be

12. In the organization and functioning of the coop program, students are:

_____too involved
_____insufficiently involved
_____sufficiently involved

13. Numbered in order from most (#1) to least, my coop experience has prepared me for the future in the following areas:

_____Academic knowledge
_____Career development
_____Financial gains
_____Interpersonal relationships
_____Job opportunities
_____Personal growth
_____Social awareness and concern
_____Specific skills
_____Work attitudes and values

14. My appraisal of the contribution of each group in my educational experience:

	POSITIVE	NEGATIVE	NEUTRAL
Coordinators			
Faculty			
Administrators			
Employers			
Other students			
Other workers			

15. A) Number of coop work assignments I have had: _____

B) Average length of each work assignment (term, quarter, semester) _____

16. In two short statements, describe:

A) One outstanding coop assignment I have had and its value to me:

B) My overall rating of the coop program is (check one)

Excellent	
Good	
Fair	
Poor	

Why do you give the program this rating?

Thank you for your participation in this study.

For general survey purposes, please show the following student indicators:

Age_____ Sex_____ Race_____ Year in college_____

Major_____ Institution_____

APPENDIX D

INTERVIEW GUIDELINES FOR COOPERATIVE EDUCATION STUDENT SAMPLES

(Interviewer should review Student Questionnaire before giving oral follow-up. Note subject's age, sex, race, year, major. Record date of interview and institution).

I. Student Interests and Goals

--How was student introduced to the concept of coop?
--What pre-college knowledge? school? relations? P. R.?
--Was the coop program initiated while they were enrolled at the university? If so, were students involved in planning of coop program? How? How was the student body informed about coop? How were students recruited into the program? Groups opposing coop? Campus factions, resistance?
--Why was coop elected over traditional academic education? College introduction, orientation?
--Why this particular institution? Type of coop program?
--What were student's academic and career interests, needs, goals?
--What program objective(s) sought--career, experiential, financial aid, etc?
--What were the expectations of "fit"--coop program to academic and personal goals.

II. Student Experiences of Coop Program, re: Organization and Operation

--What specific outstanding coop experiences have they had?
--How did coop experiences influence their academic development, personal growth, social awareness, career plans, other? Are their coop experience and courses integrated? How?
--What roles have coordinators, faculty, employers, other students, other workers played in their education? Did coordinator visit on job, review assignments?
--What kinds of counseling and testing have they had? Vocational and personal guidance?
--Did coop experiences influence academic experiences? How?
--How are students involved in the organization, operation, decisions of the coop program? What are coop, non-coop student contacts, influences? Coop clubs, groups?
--What about representation, opportunities for women, minorities? In field of study, how many minorities out of total? Implications?

III. Student Evaluations of Coop Program (General and Self Benefits)

--Did the coop program fulfill their expectations of it? In what way(s)? What are its strong points? Weak points? How do they feel the program might be improved?
--Should academic credit be given for coop? How?
--How has coop education prepared them for the future? What have they gained? What are they lacking? Did coop experience realistically prepare them for the future? world of work? adulthood?
--In what ways has their coop education influenced them? Personal development, career ambitions, social concerns, other?
--Have their experiences been typical or not? In what ways?

IV. Other Main Observations on their Coop Education

APPENDIX E

NORTHEASTERN UNIVERSITY
DIVISION OF COOPERATIVE EDUCATION
BOSTON • MASSACHUSETTS 02115

COOPERATIVE EDUCATION RESEARCH CENTER

Date

Name of President
Name of Institution
Address of Institution

Dear President:

Within the past few years, cooperative education has expanded at a phenomenal rate. Ten years ago, there were fewer than seventy programs in the country. Today there are nearly 800 programs, either operational or in the planning phase. Two observations concerning this growth have led the Cooperative Education Research Center to undertake a substantial research project. First, great diversity among many of the newer programs is evident, and second, many program planners are searching for guidelines to assist them in the development of their programs.

This Federally supported research (Title IV-D, Cooperative Education) seeks to develop well-delineated program guidelines based upon careful and systematic study of existing programs. The research plan has two major elements: a series of program case studies; and student outcome data over a three-year period. We hope to use the same institutional sample for collecting both kinds of data.

We have chosen our sample based in part upon institutional characteristics (public or private; two-year or four-year), but principally to include examples of all cooperative education program types. We have selected (name of institution) to be a member of our case study sample. I am writing to ask if your institution would agree to participate. Your participation would essentially mean the following: (1) sending us all published materials about your cooperative education program and about other off-campus education programs which might have been spawned from it; (2) having two or three research staff members on your campus for two days in the near future to meet with your cooperative education staff, members of the administration, members of the teaching faculty, and students, and (3) administering an "outcome" instrument to a sample of students once each year for each of three years.

We would certainly make every effort to minimize our intrusion upon your campus and not take undue time of busy people. We believe, however, that this important project will make a significant contribution to the development of cooperative education. We, of course, will guarantee the confidentiality of all information you furnish us, and we will be delighted to share with you all the findings for your institution as well as the final report at the conclusion of the study. If (name of institution)

can participate, I would appreciate hearing from you to that effect at your earliest convenience. If you could also nominate a person on your campus who might act as your liaison to the project (we suggest the Director of Cooperative Education), we will make all further arrangements with that person.

I look forward to hearing from you at your earliest convenience.

Sincerely,

James W. Wilson
Research Professor
and Director

JWW:jlk

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