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COOPERATIVE EDUCATION AND THE COMMUNITY COLLEGES IN NEW JERSEY.

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COOPERATIVE EDUCATION IS A WORK-STUDY PLAN INTEGRATING THEORETICAL KNOWLEDGE AND PRACTICAL EXPERIENCES. THE STUDENT ALTERNATES PERIODS OF FULL-TIME WORK IN AN INDUSTRIAL PLANT, A BUSINESS, OR A GOVERNMENT AGENCY WITH EQUAL PERIODS OF FULL-TIME COLLEGE STUDY. THE FACTORS THAT POINT TO A POTENTIALLY EFFECTIVE USE OF THIS SYSTEM INCLUDE NEW JERSEY'S INDUSTRIALIZED ECONOMY, THE SHORTAGE OF WELL-TRAINED TECHNICIANS AND SUPPORTING STAFFS, THE SOCIOECONOMIC CHARACTERISTICS OF THE POPULATION, AND THE PRESSING NEED FOR EFFECTIVE AND ECONOMIC UTILIZATION OF TAXPAYERS' FUNDS FOR EDUCATION. IN 1966, THERE WERE AT LEAST 125 INSTITUTIONS OF HIGHER EDUCATION OFFERING SOME TYPE OF WORK-STUDY PROGRAMS. THE STRENGTH AND APPEAL OF THESE PROGRAMS ARE BASED ON THE BENEFITS PRODUCED FOR ALL CONCERNED--STUDENTS, INSTITUTIONS, AND COMMUNITY. ONE OF THE POSITIVE ASPECTS OF COOPERATIVE EDUCATION IS ITS FLEXIBILITY IN METHOD OF OPERATION. THE CALENDAR AND SCHEDULE CAN BE DESIGNED TO FIT THE NEEDS OF THE PARTICULAR LOCAL COMMUNITY AND OF THE STUDENTS TO BE SERVED. (FOR PURPOSES OF ILLUSTRATION, FOUR CALENDARS ARE PRESENTED IN THIS REPORT.) THE AUTHOR SUGGESTS CONSIDERATION SHOULD BE GIVEN TO THE UTILIZATION OF COOPERATIVE EDUCATION PROGRAMS IN THE TERMINAL COURSES AT EACH COUNTY COMMUNITY COLLEGE. (HS)

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**COOPERATIVE EDUCATION
AND THE
COMMUNITY COLLEGES
IN NEW JERSEY**

**A Supplementary Report Prepared for the
Governor's Committee on New Jersey Higher Education
U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION**

**UNIVERSITY OF CAL
LOS ANGELES**

JAN 10 1967

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**A report on the role of cooperative education in higher education published by
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THE NATIONAL COMMISSION FOR COOPERATIVE EDUCATION was established with the goal of doubling the opportunities for students to enroll in college and university programs on the "work-study" plan. In such a program, students alternate campus study with employment in full-time, responsible, educative jobs. The college has, in effect, two student bodies. The college can admit and graduate more students without expanding facilities. The research done by a two-year Study of Cooperative Education found that cooperative education — often called "work-study" — increases the motivation of students, broadens their experience, and enables them better to understand the relationship between theory and practice.

Dr. Ralph W. Tyler, chairman of the National Commission, who also was chairman of the research study project, has stated: "Cooperative education gives a student an education qualitatively superior in some respects to a conventional college education. Cooperative students become more mature; and their records in graduate school and in employment show that cooperative education is the first-rate college education."

The National Commission is composed of members having long experience with cooperative education in colleges and universities and its operations in industry. These national leaders have joined in establishing the Commission as a means of expanding understanding and information about cooperative education, for there are both educational and economic benefits for the institution that adopts cooperative education. Studies of various aspects of cooperative education, such as this analysis of student employment in a cooperative education program, by Roy L. Wooldridge, are part of the Commission's efforts to interest and aid colleges and universities in adopting cooperative education.

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FOREWORD

As the members of the Governor's Committee on New Jersey Higher Education carried forward their deliberations, it became apparent that a strong community college system could effectively serve part of the higher education needs of our highly industrialized state. There are many able students in New Jersey who now have no opportunity for education beyond high school.

The blending of work-study cooperative education with a program of development of a state-wide system of community colleges could serve the great variety of needs of the young people of New Jersey in an outstanding fashion.

Cooperative education is a work-study plan that integrates theoretical knowledge and practical experiences in the education of an individual. The student alternates periods of full-time work in an industrial plant, a business, or a government agency with equal periods of full-time college study. This enables the student to obtain a college education and to acquire practical on-the-job experience in a variety of industrial and other fields.

Our Committee requested Dean Roy L. Wooldridge of Northeastern University in Boston to prepare a special report on this possibility of making use of cooperative education in the program for a general development of a more adequate system of higher education in New Jersey.

Dean Wooldridge has presented, in this paper, a statement showing how to relate cooperative education with community colleges. This system of higher education seems particularly well suited for the requirements of New Jersey. It certainly is reasonable to conclude that cooperative education in the community colleges is an attainable goal and ought to be developed vigorously.

It is our conviction that New Jersey, of all the states, needs this program to serve its youth and its employers. The indisputable demand for senior professional personnel and the increasing gap between the supply and demand on the technician level support this point of view.

We urge each and every New Jersey educator charged with a responsibility in the development of the community colleges to give serious consideration to the use of a cooperative education program in his institutional planning.

DR. CARROLL V. NEWSOM, *Chairman,*
The Governor's Committee on
New Jersey Higher Education

Preface

Higher education in the United States is a subject of mounting concern to the general public, educators, and government leaders. The problem is not only one of increasing the opportunities for advanced learning to meet the exigent requirements of a complex technological society, but also of improving the quality of education even as the quantitative demands are met.

Because higher education is a primary national resource, there is and will continue to be large-scale participation by the Federal Government in this important area. But since we do not have a national system of higher education, a major burden of financing and directing the course of advanced learning must continually be borne by the individual states.

The financial burden on the states will become heavier as time goes on. Moreover, the challenge must also be faced to find new educational means to reach new goals. In a time of sweeping social change, education must also change.

Some of these concerns were implicit in the announcement on June 17, 1963, by the Governor of New Jersey, Richard J. Hughes, of the appointment by him of a committee composed of Dr. Carroll V. Newsom, Dr. James B. Fisk, Dr. James Hillier, Dr. Millicent C. McIntosh, and Dr. James A. Perkins.

This Committee of distinguished educators was charged with the responsibility of examining "the higher education facilities of the State of New Jersey with a view to making recommendations as to overall policy and structure which the State should adopt to:

1. Provide educational opportunities for qualified youth seeking admittance to New Jersey's institutions of higher learning; and
2. Provide the programs and facilities to produce the trained personnel required for New Jersey's business, industrial, technological, scientific, and cultural development, and for the public services demanded of a progressive, urban State."¹

¹*C. V. Newsom et al., Report on Governor's Committee on New Jersey Higher Education, May 14, 1963, p.i.*

The Committee's report, entitled *New Jersey Higher Education*, published in November, 1964, has been widely circulated and has focused much attention on the higher education needs of the State of New Jersey.

Under the general heading of "miscellaneous recommendations," the Committee enumerated several subjects that it felt deserved further study and attention. Among these recommendations, item three reads as follows:

The Committee is keenly aware that there are a large number of students in the State who are unable to qualify either for loans or for scholarships. Many of these young men and women, unfortunately, come from families where the benefits of a higher education have received limited consideration. Yet, many of these young people possess the capabilities to become outstanding citizens. Thus *the Committee urges that serious consideration be given to the possibility of incorporating the so-called work-study idea into selected terminal programs at the county colleges.* The work-study plan, as the term implies, alternates a period of study at the institution and a period of employment in an appropriate business or industry. This plan, followed for many years in such outstanding institutions as Antioch College, the University of Cincinnati, and Northeastern University, requires the active assistance and support of a large number of industries. This cooperation becomes possible when business leaders understand the merits of this plan which enables students to earn while they study. The work-study program, it may also be added, has won wide recognition as a superior form of educational endeavor.

The Committee has initiated a separate study, to appear later as a supplementary report, that will consider the significance of the work-study plan as applied to terminal courses in two-year community colleges.²

The following pages contain the supplementary report, which sets forth, in accordance with the Committee's directive, the potentialities of work-study cooperative education as it can be applied to terminal courses in two-year community colleges.

²*Ibid.*, p. 44.

Introduction

Cooperative education or work-study programs are a uniquely American invention especially responsive to the empirical requirements of a technological society. The recent history of successful application of such programs indicates that they are well suited to the development needs of community colleges in the State of New Jersey.

The factors that point to a potentially effective use of this system of education include the State's industrialized economy, the shortage of well-trained technicians and supporting staffs, the socio-economic characteristics of the population, and the pressing need for effective and economic utilization of taxpayers' funds for education.

While the work-study idea has a substantial history of proven worth, it has not been universally adopted. Therefore, when it is introduced into a new environment, many questions are immediately raised, such as: What is cooperative education; how does it work; what is its record of accomplishment; how does it improve the educative process; what are the advantages for the students, the employers, the community?

This supplementary report will answer these questions. It will also set forth specific suggestions about the application of work-study cooperative education in New Jersey and the steps necessary to investigate its possible adoption in the proposed community colleges.

To accomplish its purpose and to state the case for cooperative education, this report will be divided into four parts. The first section will deal with background information about cooperative education in the United States, the second section will cover the specific application in New Jersey, the third section will present some possible academic calendars for cooperative education programs, and conclusions and recommendations will follow in the fourth and final section. An appendix has been added containing some significant testimonials for cooperative education by employers, students, and educators.

CHAPTER 1

Background Information about Cooperative Education

The National Commission for Cooperative Education adheres to the following definition of cooperative education:

It is that educational plan which integrates classroom experience and practical work experience in industrial, business, government, or service-type work situations. The work experience constitutes a regular and essential element in the educative process and some minimum amount of work experience (at least two different periods of work, totaling at least 16 weeks) and minimum standards of performance are included in the requirements of the institution for a degree. In addition, there must be liaison between the administration of the institution and the employing firm. The essential criteria are that the work experience be considered an integral part of the educational process, and that the institution take a definite responsibility for this integration.¹

It is called "cooperative education" because it is dependent upon the cooperation of employers and educators in combining to form a superior total educational program for the students. This program has an interrelated work and study content, carefully planned and supervised to produce optimum educational results for each student involved.

¹James W. Wilson and Edward H. Lyons, *Work-Study College Programs* (New York: Harper & Brothers, 1961), p. 19.

Basic Observations

This system of education is based on two observations regarding students in the United States.

- 1. Every profession for which students are preparing contains certain knowledge elements that cannot be taught in the classroom. These elements can only be learned by students through direct, on-the-job experience, working with professionals who are already in the field. In some advanced professions, this requirement is met by the intern principle.**
- 2. Most of the students in this country must find employment on a part-time basis while they are in school and during their vacation periods, in order to earn part of the cost of their education. In almost all cases, jobs have no relation to ultimate career aims and, therefore, do not contribute substantially to the educational program of the students.**

Work-study cooperative education, on the other hand, satisfies the dual desire of providing income-producing jobs that at the same time extend and amplify the learning process of students. Under a cooperative program, the educational institution designs an academic calendar which allows the insertion of work periods at appropriate intervals in the curriculum. The institution assumes the responsibility for finding positions which are related to the students' professional objectives and which thus provide work experience that enhances knowledge associated with educational aims. These jobs are regular-paying positions, producing income by which students can finance their education.

In general, a key operative factor in the cooperative plan is a faculty coordinator. His responsibility is to find employers in his students' fields of interest and to bring such employers into a cooperative relationship with the institution. A cooperating employer must be willing to provide work to be shared by two students, one of whom works on the job while the other attends college. At the end of a specified period of time, the two students change places, which keeps the job continuously filled, while each of the two students assigned to it is enabled to spend half his time in college. The length of the period of alternation varies in different institutions, as does the total amount of work experience required and the point in the student's curriculum at which it starts.

The two-man team principle is generally observed in cooperative programs, but it is not universally followed, nor is it considered a fundamental principle of the cooperative system. Some institutions have arranged their programs so that all their students go to work at the same time, with all returning to college at one time. Even those institutions that use the two-man team arrangement have found it desirable in certain instances to provide only one co-op student for a given job providing it can be handled in such a way as to permit him to return to college for the regular class period. The essential feature of cooperative education is not the pairing of students but alternation between periods of employment, regulated by the college, and periods of classroom work at the college.

Historical Background

Cooperative education was founded at the University of Cincinnati in the School of Engineering in 1906 by Herman Schneider. Its first period of growth from 1906 to 1942 was moderate but steady. Eight out of ten institutions that began the program continued its operation, and by 1942 there were 30 successful programs. Even the severe depression of the 1930's, when jobs were difficult to find, failed to halt the growth of cooperative education.

The second period of expansion in the cooperative education movement began in 1946 after the close of World War II. During the war years most cooperative programs had been discontinued in favor of emergency acceleration of academic programs. With postwar reconversion, cooperative education resumed its growth, and in the period from 1946 to 1966 the number of participating colleges and universities rose from 29 to 95. It is noteworthy that nine out of ten institutions that initiated the program during this period are continuing it at present.

There are several reasons for this accelerated growth. For one, many educators, previously committed to orthodox curricula, began to accept the work-study principle as a valid and creative force in higher education; for cooperative education has successfully met the tests of time and performance over a long enough period to win approval as academically sound. Furthermore, many educators have accepted — even welcomed — the role of business and

industry as a valuable, active force in the educative process. This change of attitude has been brought about partially by increased interrelationships of faculties and industry in consulting and research undertakings. Also, colleges, particularly private institutions, have been forced to rely upon contributions from industry in order to survive their increasing financial burdens. This reliance has fostered a more sympathetic understanding of their mutual problems.

The reciprocity between higher education and industry is fundamentally rooted in the requirements of our complex technology. Business and industrial leaders have become increasingly aware that the colleges and universities are the primary source of future leadership. Therefore, they have become concerned with the quality of higher education and with academic standards. In effect, industry must look to higher education for the trained minds capable of managing an expanding and involved economy.

Present Status

At present, in 1966, there are at least 125 institutions of higher education offering some type of work-study programs to their students. Of these, 95 are colleges and universities with programs of cooperative education consistent with definition of the National Commission for Cooperative Education; 88 of these are institutions with four or five year programs leading to the bachelor's degree; and 7 are junior colleges, community colleges, or technical institutes on the associate-degree level. Other work-study programs fall into such categories as institutional housekeeping, on-campus vocational programs, coordinated employment, and specialized experience programs, all of which lack some element of a cooperative education program as defined by the National Commission. Very few associate-degree programs are included in these categories.

In addition to the numerical increase of colleges with work-study programs there has also occurred a spread of the work-study idea over a broader spectrum of curricula. It is true that cooperative education is still thought of by some as exclusively identified with engineering disciplines, but this misconception stems from the fact that it began in an engineering school and has enjoyed its greatest growth in technical education. Since 1946, however, there

has been a marked and rapid proliferation of cooperative education into other areas such as business administration, education, and liberal arts.

The extension of cooperative education into many professional fields reflects acceptance by educators of the idea that work experience should be part of the student's total education. Even the generalist in liberal arts can enhance his education through periods of guided employment in the world beyond the campus. Such productive employment under realistic competitive conditions in a real-life adult-dominated environment will provide the student with insights that will enrich his educational experience. Obviously the learning process in a variety of off-campus conditions will vary from student to student, according to his maturity and judgment. His education will be enhanced and his responsiveness heightened to the extent that the faculty of the institution will recognize the possibilities for learning and capitalize on these in their counseling and classroom presentations.

For the students who are vocationally oriented and who have a clear idea of their ultimate career choice, the job assignments will provide sequences of work with increasing responsibility in the fields for which they are preparing. This frequently means the job assignments will be with a minimum number of employers. Indeed the most effective development may be brought about if the student remains with one employer all through the program.

For students who do not have a clear vocational objective and who are seeking to orient themselves to a work view, a series of job assignments can be arranged to provide breadth of experience. In such situations, however, the student will frequently be placed in starting positions with several employers and will not normally achieve much increase in responsibility as he samples different fields of work. There is less integration of work and study in this type of program, and the value to the student is more dependent on his initiative and perception. As a rule, even such a variegated work experience helps the student to define a career objective.

Advantages to the Student

In 1957 the Thomas Alva Edison Foundation of New York City stimulated the formation of a study committee of cooperative edu-

cation under the leadership of Dr. Ralph W. Tyler. With the financial support of the Fund for the Advancement of Education an intensive examination of cooperative education was conducted from 1958 to 1960. The results were published under the title *Work-Study College Programs, Appraisal and Report of Study of Cooperative Education* by James W. Wilson and Edward H. Lyons (Harper & Brothers, 1961).

In summation, the study found that cooperative education produces the following advantages to students:

1. By coordinating work experience with the campus educational program, theory and practice are more closely related. Students find that their studies have greater meaning.
2. Coordination of work and study improves student motivation. As students see the relationship between the jobs they hold and the principles they are studying on the campus, greater interest in academic work develops.
3. Most students in cooperative education develop greater understanding of other people and greater human relation skills. This comes about because their work experience involves them with co-workers who come from a variety of backgrounds, and because success at their jobs requires constructive relationships with colleagues. Particularly important in this connection is the value obtained from the contacts made with adults in a variety of situations, thus helping to break down the segregation of college students into wholly adolescent communities.
4. Cooperative education helps markedly to orient college students to the world of work. It provides students with opportunities for exploring their own abilities in connection with real jobs. Students are exposed to a direct means of gaining vocational information and guidance, not only about the occupations in which they are employed but in a number of related fields as well.
5. Cooperative education makes higher education possible and attractive to many young people who could not otherwise go to college. The earnings of the students while on the job have enabled many to attend college who could not have financed their education without it. This is beneficial not

only to the individual himself but also to the nation as a whole, with its increasing need for well-educated people in science, engineering, business, and the professions.

6. For many students, work experience brings a greater sense of responsibility, greater dependence upon their own judgments, and a corresponding development of maturity.
7. Cooperative education gives the student contacts which are useful in later occupational placement. It also gives many students a head start in salary and position when they graduate from college and go into full-time jobs.

Advantages to Educational Institutions

The strength and appeal of cooperative education are based on the benefits it produces for all concerned — students, institution, and community. Among the specific benefits to educational institutions are the following:

1. Under a cooperative program the student body is split into two equal groups. The dual student body makes possible a more economical use of the college plant and facilities. While one group attends classes, the other group works, and periodically they exchange places on an alternating basis. Consequently only one-half the students are in school at one time. An institution that converts from a conventional educational pattern to the cooperative formula can nearly double its enrollment using the same physical facilities. It also means that tuition income may be doubled since two students alternate in occupying each seat in class, and each pays a full annual tuition charge.

2. As work programs are planned and developed and as students rotate from college to work and back to college again, the faculty can maintain a closer relationship with business, industry, and the professions. This generally results in more effective teaching, since faculty members are kept up to date on the latest developments in their fields. Another incentive for faculty members to keep up with contemporary developments comes from the students, who are frequently on the frontiers of knowledge in their job assignments; as a result, the classroom teacher does not repeat the same lecture year after year with no reference to changes in his field.

3. The cooperative program generates active support for the educational institution from business, industry, and the community. The relationships which are established through the placement of students foster a greater recognition of the services that the college renders to the community and thus furnish a firm basis for the community's moral and financial support of the institution.

Advantages to the Community

Institutions with cooperative education programs introduce a number of social and economic values into the communities in which they are situated, including specific benefits to local area employers. Some of these advantages are:

1. Work-study cooperative education has proved to be a major factor in creating the opportunity to attend college for many young people who otherwise would not be able to do so. This is not only because the plan provides students with regular paying jobs through which they earn a portion of their college expenses, but also because it satisfies important criteria of parents of economically and socially underprivileged families. In many instances, especially where there is no college experience in family backgrounds, parents are not favorably disposed to education for their youngsters beyond high school. It is often expected, and indeed necessary, that the children seek employment as soon as possible in order to contribute to the income of the family as an economic unit. It has been the experience of existing cooperative education institutions that a program which enables students to work and earn while learning is acceptable to parents who ordinarily exclude higher education in family planning. One important result is that while parental approval and support might be denied youngsters aspiring to attend conventional colleges, it is more readily granted if the college is a cooperative institution. From the community's point of view, this produces significant returns on a number of levels:

(a) it begins to introduce cultural nourishment in the culturally deprived segment of the population; (b) it upgrades the training and skills of future adults who would otherwise have limited capacities as employees and wage earners; (c) it also lessens the sense of isolation of culturally deprived families from the main

stream of community life. Whatever the previous attitude might have been, a new factor of pride and a feeling of belonging occurs when parents can finally say, "We have a son (or daughter) who goes to college."

2. Students in cooperative programs constitute an excellent source of manpower for semi-skilled and subprofessional work. In most industrial and business communities there are many jobs that fall within this category; they are normally above the capabilities of a high school graduate and yet beneath the interest of the fully trained college or junior college graduate. These positions are important from the employer's point of view. He wants them adequately filled and he wants to avoid the cost and inconvenience of excessive turnover. Cooperative students serve his needs to perfection. Both student motivation and the supervisory participation of his college practically assure the continuity sought by the employer. Furthermore, students placed in such jobs bring to them enthusiasm, interest, and a higher-than-normal level of ability. Adequate sources of such an intermediate work force are often a major factor in the decision of an employer to locate in a given area or to expand his business, once established; and some communities have used this source of manpower as an inducement to attract new industries.

3. Work-study cooperative education programs also have the value to employers of contributing to the recruitment and retention of gifted employees, as well as retaining them in their own communities. Employers in the community find that the cooperative program helps maintain a flow of trained personnel and personnel-in-training into their organizations. The program serves to attract promising young people into diverse occupational areas. Employers can use the system as an actual testing ground to identify and select persons with needed abilities and talents. During the work periods the employer can study the aptitudes of the student within the actual environment of his own organization, using his own supervisory personnel to observe and assess. This yields the basis for sound judgment about the student's long-range potential as a permanent employee. Experience indicates that approximately 50% of the students exposed to this process will remain with their employers after graduation.

4. Studies of cooperative experiences show another advantage for employers on the level of maximizing talent utilization. The

use of cooperative students to handle duties now performed by high-priced skilled workers or professionals releases the latter from performing "chore" jobs beneath the level of their skills. This does not mean that full-time workers are replaced by cooperative students but rather that they are liberated to spend full time on more suitable and productive work. This arrangement is mutually beneficial to the student, the employer, and the skilled worker. The student gains experience; the employer attains a more efficient use of personnel in all grades; and the skilled worker finds himself properly engaged in tasks commensurate with his capabilities.

CHAPTER II

Specific Application for New Jersey

The State of New Jersey shares with other populous, industrialized states, common problems relating to the formulation, financing, and implementation of policies of higher education. One of the important emerging factors in this context is the county community college in which compacted curricula serve a number of needs not met by the full academic courses. Again, in common with other states, it seems clear that in New Jersey there are strong and valid reasons to introduce cooperative education programs in the terminal programs in the county community colleges.

The Nature of the Community Colleges

As a result of 1962 legislation authorizing the establishment of two-year county community colleges, there has been substantial interest in many of the counties in organizing these institutions. The Governor's Committee Report on New Jersey Higher Education, published in 1964, has encouraged the establishment and growth of these community colleges and recommended the formation of a Council of County College Trustees to assist in this endeavor. Furthermore, the Committee recommended a reformulation of the State's financial support of the operating expenses of these institutions.

On the basis of evidence compiled by the Committee, it is abundantly clear that a great need exists for these two-year institutions. In addition, the Committee has emphasized the particular need for terminal programs as well as transfer programs and continuing education. It is the terminal programs, however, that can be most effectively served by cooperative education programs.

The students in terminal programs are generally preparing for careers as technicians and skilled craftsmen in services supporting research and development professional staffs. A requisite for this type of work is a knowledge of the practical application of theory, for in a real work situation the highly theoretical technician is not of great use to the employer. Usually the job requirement is for a blend of practice and theory, a qualification that can be most effectively developed through a cooperative education program. The students alternate periods of employment on jobs related to their career objectives with their study of theory in the classroom. Each side, the practical and the theoretical, reinforce each other, and a superior learning process operates during the critical years of the student's life. An important attribute of the work-study alternation is the use that can be made by the educational institution of the facilities of business and industry, virtually extending its laboratories beyond the point that any college or university could afford.

The Nature of the Industrial and Business Economy

New Jersey is endowed with a thriving business and industrial economy with adequate provisions to provide the job assignments for the cooperative students in the community colleges. The Governor's Committee found not only a rapidly growing demand for professional workers in every branch of science and technology, but an equally serious critical need for supporting staff technicians. It was further discovered that employers in the State must now recruit outside the State for employees of this type.

The opening of conventional two-year county community colleges alone will not solve this problem in the immediate years ahead. Students must be recruited, educated, graduated, and then obtain some experience before offering the services needed by the employers. All of this can occur after the preliminary job has been

accomplished of actually planning the institution, obtaining the necessary approval, and setting the operation in motion. A value of cooperative education programs is that they will offer an immediate slight advantage in this respect, since the students are fed into the employment market before graduation, offering some relief of the existing shortage of staff technicians. This immediate impact presages the permanent, long-range values of the cooperative education idea.

New Jersey has the kind of diversified, modern industrial economy in which cooperative education flourishes and grows. Employers will quickly sense that the system provides excellent employees to fill lower and intermediate echelon job needs. In addition, the utilization of students gives employers a recruiting advantage when it comes time to compete for the graduates. All available reports point to the State's continuing industrial growth, and this will serve to increase the demand for well-trained personnel. For these reasons, the implementation of cooperative education programs in the county community colleges would be beneficial to employers in New Jersey.

The Nature of the Student to be Served

Many of the potential students for community college terminal programs in New Jersey would not only benefit from cooperative education, but without it they would find advanced learning foreclosed to them. In addition to the educational effects of a work-study program, there are special advantages to the students from the lower socio-economic families. It is students from this sector of the population that would be best served by the community college programs.

In most cases these students need financial assistance to pursue educational programs after high school. Through cooperative education they can earn part of the costs of education on their job assignments. Also, since the families of these students are frequently hard pressed to maintain their own support, an educational program that permits scheduled work periods on regular paying jobs is much more likely to gain parental acceptance and encouragement. Often, an attractive feature of the program is that cooperative students can make some financial contribution to the

family support during the work periods.

The practical values of cooperative education also serve to redress the lack of motivation on the part of many youths to go forward in education. Often they cannot see the reason for investing time and energy on education when they are not sure that the result will be a worthwhile job. In a cooperative education program, a job with pay is integral in the process. The young person is placed on the job training program while still a student, and the objective of his educational program is clearly visible, thus increasing his motivation to study and learn.

As Mary R. Hunt said in a recent article entitled "A Remarkable Instrument for Learning," "The case for work experience concurrent with technical training as a device for vocational exploration and direction is a strong one. Junior colleges like Mohawk Valley Community College, the Loop Branch of Chicago City Junior College, the Borough of Manhattan Community College, are already using the technique in some curriculums. It is difficult to imagine any of the occupational education programs mentioned in Norman Harris' vivid booklet 'Technical Education in the Junior College' which would not be greatly strengthened by the interplay of practical, real work experience related or giving background to the field."¹

Finally, there are students who can learn best through regular, intermittent periods of instruction. Experience has shown that this is particularly true when the instruction periods are interspersed with job assignments that are related to the studies, which is a primary purpose in cooperative programming. The work experience reinforces the classroom learning, and the total educational program is greater than could be accomplished by the classroom instruction alone or on-the-job training alone. Dr. Clarence Leuba, Professor of Psychology at Antioch College, Yellow Springs, Ohio, made the following observations in his report entitled *Effective Learning and Cooperative Education*: "Fundamentally, learning is not just repeating something; learning is connecting that something with as many as possible of the situations in which it would be useful — and which will then be able to elicit it — and not just with the circumstances of the moment. The cooperative plan of education has the potentiality for increasing the meaningfulness of

¹Mary R. Hunt, "A Remarkable Instrument for Learning," *Junior College Journal*, October, 1965.

what the student studies on campus and of what he observes and experiences while on the job. It has the potentiality for increasing greatly the range of associations which he may make and thereby increasing the availability of ideas in response to a much wider variety of questions and settings."²

In addition, cooperative education offers certain psychological advantages to students who are either incapable of or resistant to a continuous, uninterrupted regimen.

In a work-study process, such students can focus attention and energy during their study periods, confident that there will follow a work period during which they can become mentally and physically refreshed. Many students, often from families where social and educational opportunities are limited, will find this an appealing rhythm of learning, compared to the conventional educational system in which students may face a problem in pacing themselves through the normal academic year.

²Clarence Leuba, *Effective Learning and Cooperative Education* (New York: The National Commission for Cooperative Education, 1964), p. 4.

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CHAPTER III

Sample Community College Calendar Schedules

One of the great strengths of cooperative education is its flexibility in method of operation. The basic concept of integrating work experience in an educational curriculum can be applied in many different ways. The calendar and schedule can be designed to fit the needs of the particular local community and the students to be served.

For the purpose of illustration, four calendars are presented in this report. Two are based on the quarter system, wherein the fifty-two-week calendar year is divided into four thirteen-week quarters. The other two are based on dividing the year into sixteen-week segments, which are commonly called semesters in academic language. In this case, three sixteen-week semesters with four weeks of vacation distributed throughout the year make up the fifty-two weeks. In all cases, the complete year-round operation of the educational plant is envisioned in the design. This means the conventional summer vacation commonly found in academic calendars does not exist.

Quarter Systems

The quarter system is composed of four thirteen-week periods in each calendar year. Each quarter contains eleven weeks of teaching, one week of final exams, and one week of vacation. In

both examples based on the quarter system, the students remain on campus two quarters before entering the alternating work-study phase of the program. This allows the students to receive a proper orientation toward the school and the future work experience. It also provides sufficient time for the faculty to make an evaluation of each student's interests, abilities, and aptitudes. This information is essential to making appropriate placements on the job assignments.

Chart 1 illustrates a three-year program containing 84 weeks of schooling and 52 weeks of work experience. All students take quarters 1 and 2 on campus as shown. At the close of quarter 2 the students are separated into two equal divisions designated A and B. Each division follows the alternating work and study pattern through quarter 6. All students return to campus together for the final quarter 7.

Chart 2 illustrates a shorter program, containing 72 weeks of academic study and 26 weeks of work experience. The total program extends over two years with graduation scheduled for September of the second year. Again, all students take the first two quarters on campus and are then separated into the two divisions. They alternate work and study through quarter 4, and then all students return to campus to complete the final two quarters together.

Semester System

For the semester system, the calendar year is divided into three sixteen-week semesters, with a one-week vacation added to the fall and spring semesters and two weeks of vacation to the summer semester. This means a total of two seventeen-week periods and an eighteen-week period in the summer. Under a semester system it is recommended for purposes of orientation and evaluation that all the students spend at least one semester together on campus before beginning the alternating pattern.

Chart 3 illustrates a three-year program containing 80 weeks of academic instruction and 52 weeks on the job assignment. All students spend the first two semesters on campus and at the completion of the second semester are separated into the two equal divisions, A and B. The alternating pattern of work and study

continues right up to graduation in June of the third year.

Chart 4 shows a shorter program which yields 64 weeks of academic work and yet maintains 52 weeks on the job assignment. The students spend only the first semester together on campus and begin the alternating pattern with the second semester. The alternation continues until graduation in January of the third year, which in effect means a total program of two and one-half years.

Obviously, there are several variations possible within these four illustrations and other entirely different patterns can be devised. These charts are presented merely to demonstrate various schedules that can be utilized.

**Three-year Quarter System Program
Leading to Associate's Degree
84 weeks of academic work
52 weeks of work experience**

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
First Year	A							Quarter 3 12 weeks		13 weeks			
	B	Quarter 1 12 weeks		Quarter 2 12 weeks						13 weeks		Quarter 3 12 weeks	
Second Year	A	Quarter 4 12 weeks		13 weeks			Quarter 5 12 weeks		13 weeks				
	B	13 weeks			Quarter 4 12 weeks		13 weeks			Quarter 5 12 weeks			
Third Year	A	Quarter 6 12 weeks		13 weeks									
	B	13 weeks			Quarter 6 12 weeks		Quarter 7 12 weeks						
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept

School Periods



Work Periods



Vacation



CHART #1

**Two-year Quarter System Program
Leading to Associate's Degree
72 weeks of academic work
26 weeks of work experience**

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
First Year	A							Quarter 3 12 weeks	13 weeks				
	B	Quarter 1 12 weeks		Quarter 2 12 weeks					13 weeks		Quarter 3 12 weeks		
Second Year	A	Quarter 4 12 weeks		13 weeks					Quarter 5 12 weeks		Quarter 6 12 weeks		
	B	13 weeks			Quarter 4 12 weeks								
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept

School Periods **Work Periods** **Vacation**

CHART #2

**Three-year Semester System Program
Leading to Associate's Degree
80 weeks of academic work
52 weeks of work experience**

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept.	
First Year	A	Semester 1 16 weeks						Semester 2 16 weeks			Semester 3 16 weeks			
	B	18 weeks												
Second Year	A	17 weeks				Semester 4 16 weeks			18 weeks					
	B	Semester 3 16 weeks			17 weeks				Semester 4 16 weeks					
Third Year	A	Semester 5 16 weeks		17 weeks										
	B	17 weeks			Semester 5 16 weeks									
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept.	

School Periods



Work Periods



Vacation



CHART #3

**Two and one-half year Semester System Program
Leading to Associate's Degree
64 weeks of academic work
52 weeks of work experience**

		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
First Year	A	Semester 1 16 weeks					Semester 2 16 weeks			18 weeks			
	B	Semester 1 16 weeks					17 weeks			Semester 2 16 weeks			
Second Year	A	Semester 3 16 weeks			17 weeks				Semester 4 16 weeks				
	B	17 weeks				Semester 3 16 weeks			18 weeks				
Third Year	A	17 weeks											
	B	Semester 4 16 weeks											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept

School Periods



Work Periods



Vacation



CHART #4

CHAPTER IV

Recommendations

It seems appropriate to make the following recommendations to the State of New Jersey:

1. *Consideration should be given to the utilization of cooperative education programs in the terminal courses at each county community college.*

For those community colleges that are now in existence the possibility of conversion should be studied. For the others, the utilization of cooperative education should be part of the initial study so that programs can be initiated with the inception of the college.

2. *To accomplish this implementation of cooperative education, a study committee should be organized for each community college.*

This committee should assess the advantages and disadvantages of cooperative programs in the light of the local situation. A thorough analysis should be made of the type of student to be served and the needs of the student. An assessment should be made of the employment possibilities in the local business and industry community. The committee should also be charged with the responsibility for recommending an academic calendar which is best suited to the needs of the particular institution. The recommendations of this committee would be presented to the Board of County Freeholders for inclusion in the final report on the establishment of the county community college. In the case of an existing insti-

tution, the report would be presented to the Board of Trustees of the institution.

3. When a cooperative program is to be established, aid and advice should be sought from qualified experts in the field.

Consulting service is available through the offices of the National Commission for Cooperative Education in New York. Experts with experience in the administration of cooperative education at other institutions can be made available to work with the study committee and with the college officials and faculty at the community colleges.

Recently, Northeastern University in Boston, the largest and most diversified higher educational institution in this country offering cooperative education programs, has established a Center for Cooperative Education with financial support from the Fund for the Advancement of Education. The purpose of this Center is to provide aid and assistance to colleges and universities considering the adoption and implementation of cooperative education programs. Facilities have also been established within the framework of this Center to supply training to faculty members who will be responsible for the administration and coordination of the program at the new institution.

4. Since the success of cooperative education depends on effective operation of the program, sufficient funds should be allocated to allow proper administration.

To ensure the success of cooperative education, it is extremely important that funds be provided to allow adequate staffing for administration of the program. Adequate funds are required if faculty coordinators are to serve an appropriate load of students and employers, which will result, incidentally, in winning the approbation that will give impetus to the growth and development of cooperative education programs. An adequate operating budget is also needed to permit the coordinator to visit potential employers, to establish cooperative arrangements, and existing employers, to obtain verbal and written reports on the progress of the students. This continued personal contact is essential in achieving maximum benefit to all concerned.

The Higher Education Act of 1965 opens the way for possible financing of the installation of cooperative education programs by the United States Office of Education. Under this Act, federal funds are authorized to enable the Commissioner of Education to

make grants to colleges and universities "to pay part of the cost of planning, developing and carrying out cooperative arrangements which show promise as effective measures for strengthening the academic programs of developing institutions."

Under Section 304 of the Act, funds are authorized for "development and operation of cooperative education programs involving alternate periods of academic study and business or public employment."

Work-study cooperative education has proved its effectiveness through nearly sixty years of successful operation. It has been especially useful in urban and industrial communities, where the need is most acute for increased educational opportunities and where the social demand is strongest for young people of advanced learning. In the State of New Jersey, the successful potential of cooperative education may be measured by the State's economic structure, by the growing demand for better educated people, and by the hunger for advanced learning in the hearts and minds of boys and girls who cannot go forward because of the financial inabilities of their families. The adoption of cooperative education in the county community colleges is one way for the State of New Jersey to forge vigorously ahead in creating a richer life experience and real educational advantages for many of its deprived youth, and at the same time to serve the needs of its technological community.