DOCUMENT RESUME

ED 400 903 JC 960 673

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TITLE Rationale and Strategy for Implementing a Work Experience Component in the Associate in Applied Science Degree Programs at Cumberland County College.
INSTITUTION Cumberland County Coll., Vineland, N.J.
PUB DATE 19 Sep 96
NOTE 17p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Associate Degrees; *College Credits; Community Colleges; Cooperative Education; Cooperative Programs; *Curriculum Development; Employment Experience; *Enrollment Trends; Experiential Learning; *Internship Programs; *On the Job Training; Program Improvement; Two Year Colleges; *Work Experience Programs
IDENTIFIERS *Cumberland County College NJ

ABSTRACT

Currently, 14 of the 22 Associate in Applied Science (AAS) degree programs at New Jersey's Cumberland County College (CCC) provide work experience opportunities, incorporating hands-on experience and theories derived from instruction in the classroom. Employers who participate in work experience, or Cooperative Education (CE), programs benefit by recruiting students with on-the-job training to their organizations. Students learn about possible career options through actual work with a company, gain practical experience, and establish professional contacts. Data on enrollments, however, indicate that from fall 1991 to spring 1995 only 55 students enrolled in CE programs, suggesting that they do not fully utilize the programs for obtaining work experience credits towards their degrees. Further, of the 306 AAS graduates for the period, only 18% utilized CE as a credit option. Currently, seven CCC programs do not offer student work experience opportunities. The most straightforward way of implementing work experience into all AAS programs would be to change degree requirements to incorporate CE or a similar school/work component and to enhance students' work experience opportunities by hiring a full-time CE coordinator, conducting regular advisory board meetings, coordinating placements, and establishing a placement office. Specific recommendations for each of the seven programs without CE components are included. (TGI)

Rationale and Strategy For Implementing A Work Experience Component In The Associate In Applied Science Degree Programs At Cumberland County College Vineland, NJ

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September 19, 1996

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Introduction

Currently our institution has curriculum-related work experiences built into fourteen of its twenty-two Associate in Applied Science (AAS) degree programs. These credit-bearing experiences are valuable for students where hands-on opportunities to implement techniques derived from theory presented in the classroom are made available. This principle, referred to as cooperative education (CO-OP), field work, practicum, work experience education, and internships, began around the turn of the century.

This paper will explore work experience opportunities currently available to Cumberland's students and recommendations for implementing new opportunities in various career programs.

Definition of Terms

The definitions provided below were obtained from Good's (1973) Dictionary of Education.

Internships - Upon completion of a required course of study for a professional degree for preparation of independent practice. In order to receive planned and supervised training that allows the application of theory to actual varied practice. Usually under the supervision of a University and a participating administrator in the field.

Work Experience Education - Employment undertaken as part of the requirements of a school course designed to provide experience in the chosen occupation which may or may not be supervised by a teacher, coordinator, or an employer.

Practicum - A course of instruction aimed at closely relating the study of theory and practical experience both usually being carried on simultaneously. An academic exercise consisting of study and practical work.

Field Work - Educational experience acquired by college students in a practical service situation, the terms field laboratory experience and student teaching are most commonly used in a preservice level, whereas internship and field placement are more commonly used at graduate student levels.

Cooperative Education - A program for persons enrolled in a school that provides for alternating study in school with a job in industry or business. The two experiences being so planned and supervised cooperatively by the school and the employer that each contributes to the students development in his/her chosen profession.

Benefits of Curriculum Based Work Experience Programs

Employers who participate in CO-OP programs receive several benefits; foremost, they have an opportunity to screen a field of talent for recruitment purposes and offer paid positions to those students they feel have the most to contribute to their organizations. Many businesses looking at recent college graduates say that on the job experience is more desirable than textbook training (Payan, 1993). Students who are only marginal performers are released after the completion of their work experience and return to the classroom for further training. College faculty who instruct students in their major field receive feedback from the students' work experience supervisors and more accurately gauge the students' readiness to enter the work force. Weaknesses identified can be remedied before the student enters the job market.

Internship programs offer students the opportunity to learn about possible career options through actual work with a company. Meanwhile, the company has the chance to review potential permanent employees (Thomas, 1994). Large and small firms are beginning to view

internships as a recruitment tool, letting interns 'try out' for three months to a year (Hayes, 1994). Some of the nation's finest colleges have used the school/work concept in their curricula. Drexel is a good local example. Here the students' graduation is delayed beyond the four year mark, but they graduate with three or four significant work placements in their field of study.

Internships give students an opportunity to develop a real world perspective and understand what is expected from them when they enter the work force (Tetzell, 1993). Students gain practical experience not available on campus, establish professional contacts which can benefit the student after graduation when they look for work, and often these work experiences are paid. In fact, Northwestern University reports that 58 percent of interns are eventually offered jobs with their host employers (Hayes, 1994). Students can use internships to get valuable experience in their field and may find that what they are studying is not what they really want to do for a living (Newman, 1993). Even if an intern is unsure of his or her career plans, the experience remains priceless and the networking creates new possibilities (Payne, 1993).

Work Experience Opportunities Available at Cumberland

A close examination of Cumberlands' curriculum reveals that work experience opportunities have had a significant impact throughout most of our twenty-two applied science degree programs. See Table 1 below:

Table 1

Table Showing Type and Duration of Work Experience Component Currently in Place Within Various Associate in Applied Science Degree Programs at Cumberland County College

	AAS Degree Program	Work Experience Component			
		Clinical	CO-OP Opt.	Flight Inst.	Practicum Field Wk.
1	Accounting		3 cr		
2	Aviation Flight Tech.-Helicopter			225 hr	
3	Aviation Flight Tech.-Dual Rating			225 hr	
4	Aviation Maintenance Technology				VO TECH (1980hrs)
5	Business Administration-H.R.M.		9 cr		
6	Computer Information Systems		3 cr		
7	Career Agriculture				
8	Community Service				6 cr (160 hrs)
9	Community Service-Gerontology				6 cr (160 hrs)
10	Computer Integrated Manufacturing		3 cr		
11	Education/Pre-School Education				
12	Industrial Supervision & Mgt.		9 cr		
13	Industrial Technology				
14	Legal Assistant				3 cr (90 hrs)
15	Marketing Management		9 cr		
16	Nursing	600 hrs			
17	Office Systems Technology				
18	Office Systems Technology-Legal				
19	Office Systems Technology-O.A.M.				
20	Ornamental Horticulture				
21	Plastics Technology	Program currently inactive			
22	Radiography	2000hrs			
	Totals	2	6	2	4

A careful analysis of Table 1 reveals that of the twenty-two AAS degree programs, all but seven have some type of work experience opportunity available to enrolled students. Nursing and Radiography contain required clinical experiences; two flight programs have FAA-mandated flight hours which fluctuate from student-to-student determined by the individual's competence; Aviation Maintenance Program students obtain hands-on experience at the Cumberland County Technical Training Center; Community Service and Legal Assistant students participate in a required field work/practicum placement.

Six AAS degree programs contain optional CO-OP credits which students may take in lieu of business electives. The number of these CO-OP credits vary. Half of these programs contain three CO-OP credits while the other half offer nine.

The recent history of student participation in CO-OP reveals a severe underutilization of this vehicle for students obtaining work experience credits toward their degrees. The reasons for this are not clear. It could be that the advisement process does not promote CO-OP, or, a result of how we have individualized our CO-OP program at Cumberland.

The table below presents enrollments in CO-OP for the past four academic years, and the degree programs in which these students are currently enrolled.

Table 2

Cooperative Education Enrollments by Degree Program During Academic Years 1991-'92 Through 1994-'95

Degree Program	Academic Year/Semester								Total
	F '91	S '92	F '92	S '93	F '93	S '94	F '94	S' 95	
* Accounting	1	-	2	-	-	-	2	1	6
* Business Admin./HRM	1	1	1	-	1	-	2	1	7
* CIS	1	-	-	-	-	1	1	1	4
LA/Bus. Admin.	4	2	8	1	2	4	2	5	28
Legal Assistant	-	-	-	-	-	1	-	-	1
* Marketing	2	1	3	-	-	-	-	-	6
Non-Degree	-	1	-	-	-	-	-	1	2
Office Systems/OAM	1	-	-	-	-	-	-	-	1
Total	10	5	14	1	4	6	6	9	55

* Programs that contain CO-OP as an approved curriculum elective

The numbers in Table 2 appear to be very low. In four academic years, just 55 students enrolled in CO-OP. Despite these low numbers, just 23 students (42%) were actually enrolled in an academic program that contains CO-OP as an elective. Furthermore, half of all CO-OP students were enrolled in Liberal Arts - Business Administration in which CO-OP cannot by used toward graduation, nor transfer upon completing those degree requirements. Perhaps these students moved into LA-BA after initially enrolling in an applied science program in which CO-OP was an approved elective, however, this was not investigated.

When we compare the numbers of students who have graduated from these degree programs during the same four-year time period, we can determine that only 18 percent of these students are utilizing CO-OP as a credit option (55 students / 306 graduates = .179).

Table 3

Numbers of Graduates from Academic Programs in Which Students Enrolled in CO-OP Over Four Academic Years

Degree Program	Number of Graduates AY 1991-'92 to 1994-'95
* Accounting	32
* Business Administration/HRM	28
* CIS	36
Liberal Arts/Business Administration	132
Legal Assistant	45
* Marketing	21
Non-Degree	N/A
Office Systems Technology/OAM	12
Total	306

* Programs that contain CO-OP as an approved curriculum elective

It would appear from Tables 2 and 3 that most students who enroll in CO-OP do so for reasons other than what we would anticipate, those being, (a) to accumulate business elective credits toward graduation in one of six specified AAS degree programs, or, (b) to exercise the option of receiving college credit, due in part, by virtue of their current employment.

CO-OP is a relatively easy way to accumulate three or more credits for someone who is employed in a business field. Just one hour of class attendance per week is required, and students suffer no interruption of their normal work week. In addition, they are already

being paid for their time on the job. We could assume other students enroll in CO-OP to meet full-time enrollment status for financial aid purposes, while others seek the course out as a means to lift their GPAs. The overwhelming majority of CO-OP grades are 'A's. Students who participate in CO-OP may also elevate their status at their job by completing the required class project which is a work-related innovation over and above their normal work duties.

Academic Programs Lacking Work Experience Opportunities

At this time, our curriculum contains seven AAS degree programs that have no opportunity for student work experience prior to graduation. These programs are:

Table 4

Academic Programs Which Lack Work Experience by Academic Division

Academic Degree Program	Required Credits	Academic Division: Math/ Tech.	Academic Division: Business/ Soc./Sci.
1. Career Agriculture	66	X	
2. Education/Pre-School Education	63-65		X
3. Industrial Technology	65	X	
4. Office Systems Technology	64		X
5. Office Systems Technology - Legal	63-65		X
6. Office Systems Technology - Office Automation Management	62-63		X
7. Ornamental Horticulture	64	X	

Table 4 clearly indicates that all seven of these programs are contained within two academic divisions, Math/Technologies and Business/Social Sciences.

Recommendations for Curriculum Restructuring

Thus far, this paper has presented an overview of the various types of work experiences conducted at colleges and the benefits they provide for both students and employers. Our curriculum was presented and its various work opportunities were identified. The recent history of student participation in CO-OP was presented. Finally, those programs that do not contain credit-bearing opportunities for students to graduate with a formidable work experience were reviewed.

The most straightforward way to implement a work experience into all of our AAS degree programs would be a two-step process. First, change the degree requirements in the seven AAS degree programs in Table 4 to incorporate CO-OP, (or some other school/work component presented in the beginning of this paper). Second, enhance students' opportunities for participating in these experiences.

Curriculum Changes

1. Career Agriculture - New Jersey (the "Garden State"), particularly rural Cumberland County, would provide numerous locations for agriculture students to be placed for a semester. The free elective in the fourth semester should be changed to a liberal arts elective or CO-OP. Transfer students should take the liberal arts credits (general education), whereas, non-transfer students will enroll in CO-OP/field placement. This change would keep the program at 66 credits, and students would still be able to accumulate up to 52 general education credits if they so desired.

2. Education/Pre-School Education - Again, I would expect no shortage of opportunities for establishing field placement/CO-OP locations for students to complete a semester of work experience in this area. Day care centers, elementary schools, and Head Start programs would all be appropriate sites. The general education

requirements are somewhat high for this non-transfer program, enabling students to accumulate between 27 to 44 GE credits depending on which electives they choose. For this reason, I suggest we replace the fourth semester liberal arts elective with a three-credit field placement/CO-OP enabling this degree program to remain at its current level, 63 credits.

3. Industrial Technology - This AAS degree program carries the minimum general education requirement of 20 credits. Furthermore, the IT and related electives are essential to provide students with minimum skills necessary for employment in the field. For this reason, I would move the required number of credits in the program up to 68 by adding a three-credit field placement\CO-OP in the sophomore year.

4. Office Systems Technology -

5. Office Systems Technology/Legal -

6. Office Systems Technology/Office Automation Management - I have grouped these three programs together for apparent reasons; they are contained within the same academic division and are run by the same instructor. They are also very general education sensitive; they each contain 21 general education credits. All of the Humanities, Social/Behavioral Science, and Math/Science electives contained within these three programs must be selected from the list of approved general education courses. An aberration of this advisement procedure would cause the student to take an additional course to meet the general education graduation requirement. These three programs are also on the low end of the total number of degree credits required for graduation: they require 64, 63, and 62 credits respectively. I would recommend we require an additional three-credit CO-OP or field placement in each of these programs during the sophomore year.

7. Ornamental Horticulture - Cumberland County provides numerous work locations such as florists, nurseries, and garden shops for Ornamental Horticulture students to be placed for a semester. The program contains 64 credits, six of which are Social or Behavioral Science electives. The Social or Behavioral Science elective in the fourth semester should be changed to a liberal arts elective or CO-OP. Transfer students should take the liberal arts credits (general education), whereas, non-transfer students will enroll in CO-OP/field placement. This change would keep the program at 64 credits, and students would still be able to accumulate up to 35 general education credits if they so desired.

The General Education requirement for Associate in Applied Science Degree Programs is 20 credits and would not be minimized by these change recommendations. I want to reinforce that the curriculum changes presented here are recommendations. I was asked to develop some ideas as to how these academic programs might be altered to incorporate a work experience. Any program changes which might come about would of course be discussed at the division level where final consensus would be reached before going to the Curriculum Committee.

Enhancing Work Experience Opportunities

At one time, Cumberland employed a full-time CO-OP coordinator. Although we still offer CO-OP, we require that a student already be employed in the field of their selected degree to enroll for CO-OP credits. This in itself inhibits participation in the program.

A key to developing work site locations to place students in appropriate field placements or CO-OP settings lies in the coordination and input from our academic programs' advisory boards. At this time, we have fourteen advisory boards working in conjunction with most of

our applied science degree programs. Individuals who sit on these volunteer boards represent business and industry and the public sector and are in positions to make curriculum recommendations, employ graduates, and also supervise field placements/CO-OP for our applied science degree students.

Department budgets should reflect the need to have regular advisory board meetings. Efforts should be made for their memberships to reflect local employers who need and will utilize the talent that this college produces among its graduates.

The task of coordinating field placement/CO-OP experiences will be significant. For example, this spring semester 333 students are enrolled in the AAS programs in which CO-OP/field placements currently exist or is being advocated. This number excludes Nursing, Radiography, Community Services, Legal Assistant, and all Aviation programs.

Table 5

AAS Program Enrollments Relative to CO-OP or Field Placements
Spring 1996

Accounting	40
Business Admin./HRM	48
Career Agriculture	2
Computer Information Systems	85
Education/Pre-School Education	31
Industrial Supervision & Mgt.	2
Industrial Technology	24
Marketing Management	28
Ornamental Horticulture	38
Office Systems Technology (all)	35
TOTAL	333

If we assume that one third of the total number of students in Table 5 would be ready to participate in work experience, then 111 students would need placements spanning eight different work environments this semester. This is in addition to the field and

practicum placements that are currently made with Community Services and Legal Assistant students each semester.

The coordination of these placements could be assigned to the faculty and/or division chairs, or, with one individual who would oversee all work experiences. Considering the overload pay it would require in contact hours to implement these placements through the faculty, it would probably by cost effective to hire one individual to coordinate the CO-OP/field placement campus wide. Regardless, close working relationships with the advisory boards of these programs will be essential.

Another consideration, which supports the hiring of one individual to coordinate campus-wide work experiences is the institutions' need to establish a placement office. Curriculum based work experiences and job placements would naturally compliment each other. A well run program would require the oversight and commitment of a full-time professional employee.

Below is a list of advisory boards currently in existence:

1. Math/Computer Science
2. Business
3. Aquaculture
4. Fine & Performing Arts
5. Nursing
6. LPN
7. Radiography
8. Legal Assistant
9. Law Enforcement/Criminal Justice
10. Computer Information Systems
11. Secretarial Science
12. Community Service
13. Agriculture/Horticulture
14. Engineering/Engineering Technology/Quality Enhancement/ Industrial Technology

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I. DOCUMENT IDENTIFICATION:

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