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ABSTRACT

This report describes a project to develop an internship program for prospective technical and vocational community college teachers providing both requisite teaching skills and work experience through actual classroom exposure, while allowing an on-the-job evaluation of the prospective teachers. To develop the program, a pilot internship project was conducted in the 1972-1973 school year by the University of Houston and seven area community colleges. Specific requirements for a working internship program as well as the pilot project structure are presented in the report. Program evaluation was made by the participating colleges and by the internship students. Both unanimously approved the program as valuable to the prospective teacher and to the college in which the internship occurs. For the intern the program provides an opportunity to observe an experienced teacher and to apply classroom instruction methods, while benefiting the college by helping the college instructor. It was concluded that an internship program should be established as a regular part of the Texas educational system. A second pilot project was recommended for the 1973-74 school year to complete development of the internship program. (MF)

An Internship Program for Technical Vocational Teachers in Post-Secondary Schools

Final report of an Internship Project conducted in association with the Division of Occupational Research and Development, Department of Occupational and Technical Education, Texas Education Agency under Contract Number 38147.

Project Director

Dr. W. R. Forkner
Colleges of Technology and Education
University of Houston

June 1973

AN INTERNSHIP PROGRAM FOR TECHNICAL VOCATIONAL TEACHERS IN POST-SECONDARY SCHOOLS

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FOREWORD

The research project which was conducted to develop the internship program described in this report was the result of a cooperative effort between several educational institutions in the Houston area. Such cooperative effort is valuable in itself in establishing a close working relationship between senior and post-secondary schools which ultimately provides the best benefits to the students. The numerous photographs appearing in the report depict candid views of various internship teaching and learning situations. The officers in this project were:

Director: Dr. W. R. Forkner
College of Technology and College of Education
University of Houston

Co-Directors: James H. Frazier
Dean of Occupational Education
Galveston College

Truman T. Isbell
Director of Technical-Vocational Studies
Brazosport College

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College of Technology
University of Houston

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CHAPTER I

INTRODUCTION

The purpose of this report is to describe the results of a project to develop an internship program for prospective technical and vocational Community College teachers. It has long been recognized[1] that the technical-vocational teachers, at both secondary and post-secondary levels, must satisfy certain qualifications over and above those of their purely academic counterparts. Specifically, such a teacher must instruct in the practical aspects of performing a job and must therefore possess the experience of performing that or similar jobs. Beyond this, the techical-vocaticnal teacher must of course be skilled in the various procedures and techniques employed in the teaching activity itself. At the secondary level, these elements of qualifications are provided for in the State of Texas by the stipulations that the prospective teacher possess a certain minimum degree of practical experience in a discipline and certification[2] as a teacher in that discipline. Such certification is obtained through completion of an instructional program in teaching methods, especially as associated with technical and vocational areas. The great advances in technology of the last decade have resulted in a condition where many technical and vocational disciplines require training beyond the secondary level for proficiency. The Vocational Education Act of 1963 as amended in 1968, has provided the impetus to develop programs for such training.

The extent of vocational-technical education needs can be clearly demonstrated, as in Table I, using projections of technician employment needs over the period 1966 to 1980.[3] It is estimated[3] that 52.9% of their needs must be provided from post-secondary education programs. In Table II we see the corresponding post-secondary enrollment growths over a one year period as reflecting the response of both students and schools to these requirements.[4]

Table I

Technician Speciality	Projected Employment Increase 1966 to 1980
Drafting	59.5
Engineering	54.3
Life Sciences	55.6
Other	64.5

Table II

National Enrollment Growth in Post-Secondary Programs from 1969 to 1970	
Speciality	Percent Enrollment Increase
Technical	16.1%
Industrial	49.9%
Health	11.5%
Office	49.6%

As illustrated in Table III, the post-secondary schools in Texas have also experienced a large growth of their technical-vocational programs as they responded to these special educational needs.[5] The unique background requirements of the teachers in these programs was allowed initially

by assuring sufficient work experience on the part of the post-secondary instructor through satisfactory completion of a "Statement of Qualifications"[6] with the Texas Education Agency. The related teaching expertise was of necessity relegated to a somewhat lesser significance due to the pressing demand to provide instructors. The fundamental goal to which the program developed under this project is aimed is to determine how the senior colleges can best be of service in providing post-secondary teachers for technical and vocational subjects who have the expertise as well as the experience.

Table III

Growth of Texas Community College Programs		
Specialty	Number of Programs 1966	1972
A. Technical	39	117
B. Industrial	35	219
C. Health	26	122
D. Office	22	127

CHAPTER II

INTERNSHIP PROGRAM

As a partial answer the the problem of providing qualified post-secondary teachers in technical-vocational areas, the College of Technology of the University of Houston proposed to research the feasability of an internship program between a senior institution and local community colleges. Essentially this program would provide that seniors or graduates of a technical program at the senior institution, who met the qualifications of work experience, would spend one year in an internship part time teaching capacity at a local community college. Such a student would also be instructed in teaching methods through enrollment in a course or courses at the senior school. The program would assure that a prospective teacher possessed the requisite work experience, would provide some of the teaching skills through instruction, would provide actual teaching experience and guidance through working under the tutelage of community college instructors and finally would provide the community colleges an opportunity for on-the-job evaluation of a prospective teacher.

The basic features of the program and numerous interactions are illustrated in Figure 1. Here we see that the intern is provided a maximum of benefits from both the University and community college. The program also provides close working ties between the senior and post-

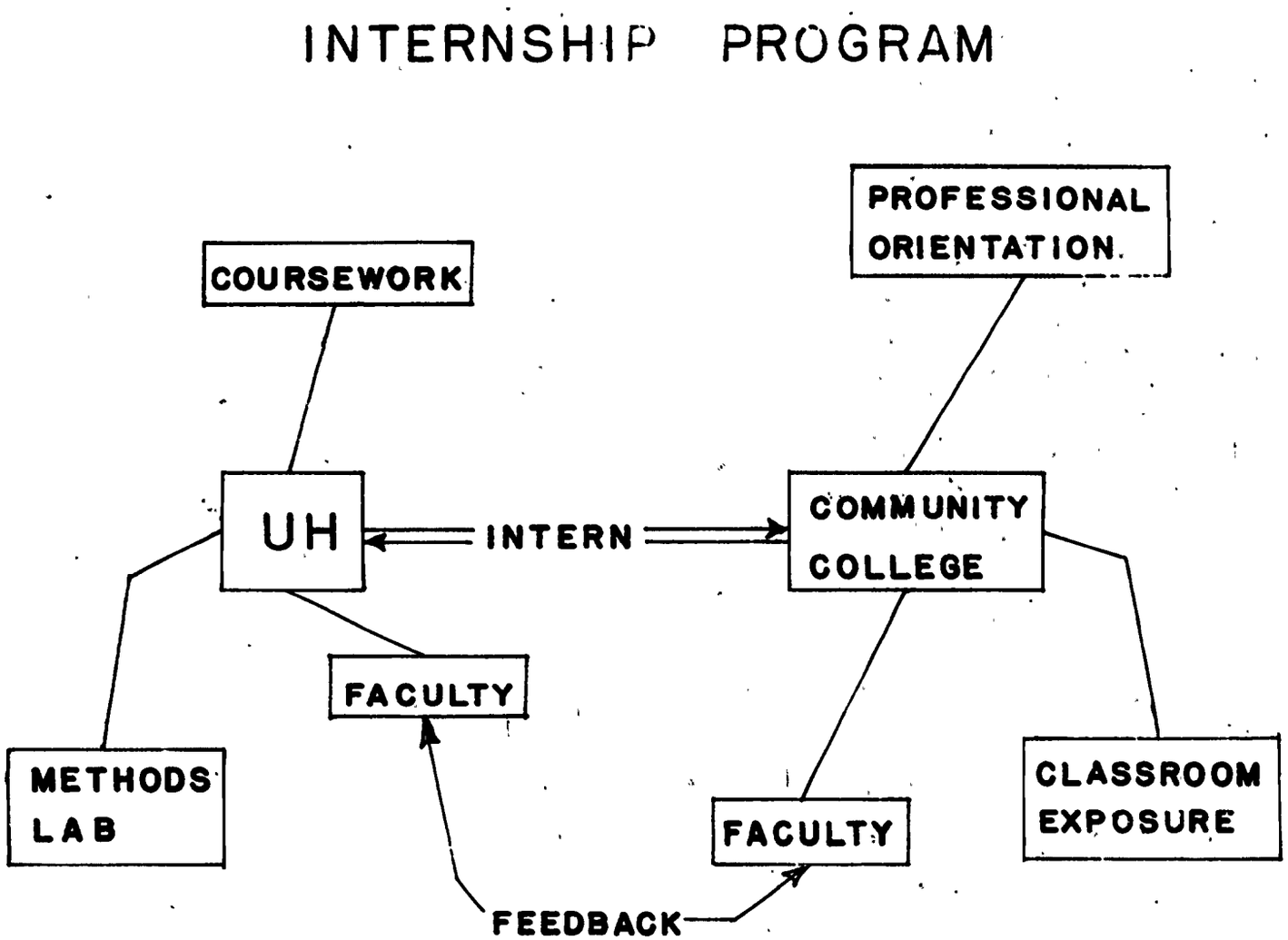


Figure 1. Features and interactions of the internship program.

secondary school. Such a program is of course an application of the very successful "student teaching" concept employed for so many years in the preparation of secondary and elementary school teachers. There are, however, several aspects of the use of this instructional tool at the post-secondary level in the technical-vocational area which require special consideration. To exemplify this distinction between the student teaching concept applied to pre and post-secondary educational systems, the term "internship teaching" was adopted to describe application of student teaching to post-secondary levels.

The basic difference which exists between a student teaching concept and an internship concept lies in the extent of responsibilities which underlie each activity. The internship student is accorded a much more extensive responsibility relative to lecture and laboratory presentation as well as being involved in course development at the school at which the internship occurs. Indeed one result of the pilot study conducted over the last year has shown that the post-secondary schools found it expedient to accord the intern a pseudo-faculty status as most appropriate to their activities.

The most obvious difficulty in the development of an internship program is essentially a practical consideration. In general, any community in the vicinity of a senior institution will have local elementary and secondary schools to provide for student teaching. In the case of post-secondary schools, however, this is seldom the case. Thus, in the Houston area the average one way distance to the seven local community colleges is 40 miles. A random sampling across the state shows that in

general, an internship student at senior institutions may expect to commute similar distances to engage in intern teaching activities.

Another problem associated with such an internship program is again related to a burden placed on the student. In the technical-vocational area the internship student must have a prerequisite number of years of work experience. This restriction generally means that the intern student is older than the student-teaching counterpart. Furthermore, the probability is greater such a student will have a family and other adult obligations. Generally then, the time required to perform the internship teaching duties adds a burden of financial difficulty by precluding part-time work in addition to coursework. Thus, a valuable potential teacher may be lost from the program through the financial obligations which must be met.

Numerous other problems can be delineated which necessitate special techniques for employing an internship process in post-secondary technical-vocational disciplines. For example, since the interns must be selected from a population who have sufficient technical and work background, they often lack adequate teaching background. Also since programs of this type are not common, the necessary interfaces between the senior institutions and post-secondary schools have not been established.

CHAPTER III

INTERNSHIP PROJECT

In order to develop a program which could resolve the above and other problems, a pilot internship project was conducted over a one-year period (1972-1973 School Year) between the University of Houston, Colleges of Technology and Education and seven local community colleges. Brazosport and Galveston Community Colleges worked as co-developers of the program. The following specific objectives were specified as necessary to construct a working internship program for technical-vocational disciplines.

SPECIFIC OBJECTIVES

1. Technical Background: *define the technical and vocational background qualifications which will be required of the propsective internship student.*

Before considering a student as an intern teaching candidate, it is necessary that a certain level of technical understanding and work experience be in evidence. This is necessary both to assure that sufficient technical competence exists to teach the material and to assure that the student meets the minimum state qualifications to be employed as a post-secondary technical-vocational instructor.

2. Interfaces: *develop the interfaces and guidelines which are necessary to assure a smooth operation of the program between the*

senior institution and the post-secondary school.

The success or failure of any inter-institutional program can hinge on the degree of understanding which exists between institutions on the operation of the program. Questions of intern duties, course loading, institutional responsibilities and so on must be clearly specified.

3. Teaching Development: *define the prerequisite and coincident training required of the intern in teaching methodology, particularly as associated with technical and vocational disciplines.*

It is not clear to what degree the intern student must already be trained in teaching methods to effectively benefit from the internship experience. Much of the training will certainly be a product of the intern process itself, but requirements must be established for what sort of additional instruction is to to be provided at the senior instituion.

4. Teaching Methods Laboratory: *develop a teaching methods laboratory to instruct the intern in audio-visual and laboratory techniques associated with technical-vocational teaching.*

One of the aspects of technical-vocational teaching that sets the discipline apart from other areas of study is the necessary emphasis on laboratory experience. Since the teaching is intended to provide explicit work related training such a practical, hands on approach is both natural and mandatory. However, a clear understanding of a job function in a work environment on the part of a teacher does not automatically provide for the ability to convey that understanding to

students in a laboratory environment. Thus, the need exists for providing instruction to the intern on how to effectively employ the various multimedia techniques effectively with laboratory and lecture material.

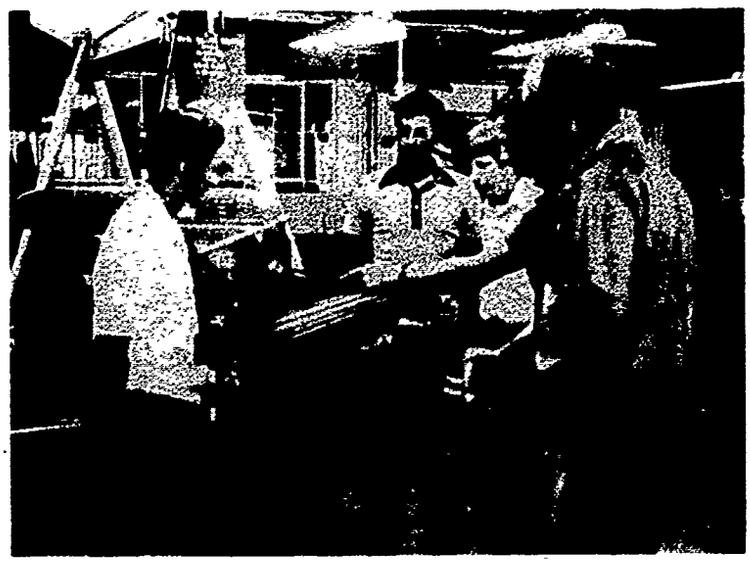
PROJECT STRUCTURE

The pilot project, which was conducted to develop an internship program, was designed to have flexibility in structure to allow for testing the various aspects of such a program. Seven local community colleges, as indicated in Table IV and described in the appendix I, were invited to participate in the project. Each school has instructional programs in several technical and vocational areas. A total of fifteen intern students, whose background is reviewed in Appendix II, were selected to participate in the project. An attempt was made to place the students in the colleges with an even distribution and in as large a variety of disciplines as possible. This enabled the specialized problems of each discipline relative to an internship program structure to be considered. In Table IV the distribution of interns and subjects among schools is presented. Each school was visited by project personnel to describe the project and request information on areas in which the college would wish to participate. Several visits were made to each school during the year to solicit comments and suggestions on the project. Each college was asked to respond by letter at the end of the project year for the purpose of a final evaluation of the project.

TABLE IV

INTERN SEMESTERS IN SCHOOLS AND SUBJECTS					
College \ Subject	Office/Business	Electronics	Drafting	Machine Shop	TOTAL
Alvin Junior		2	3		5
Brazosport College	2	2		1*	5
College of the Mainland		2	3		5
Galveston College	2	1			3
Lee College	2	1	2		5
San Jacinto College		3			3
Wharton County Junior College		1	2		3
TOTAL	6	12	10	1	29

*Intern was on program only one semester.



The fifteen students selected to participate in the pilot project were instrumental in providing suggestions and recommendations regarding the program. In summary, the intern students' average age was twenty-eight, two were female, twelve were married. In terms of professional background, two interns have Masters, seven have Bachelors and the average full time equivalent work experience was five years. The students were given three hours of credit for their intern teaching duties and were enrolled in an additional three-hour University course in which teaching techniques were developed. This course time also provided a mechanism to regularly po[illegible]e students on the status of their participation in the project. The course meetings were used to develop a clear idea of the type and depth of teaching training which an intern should possess. In many respects

the course was conducted like weekly workshop sessions where problems in teaching which the intern had encountered could be discussed, thus allowing the whole group to benefit from individual teaching experiences.

CHAPTER IV

PROJECT RESULTS

A significant measure of the success of this project is the final disposition of the fourteen Interns who completed the program. At this time nine interns have accepted teaching positions in community colleges or senior colleges and another is considering a position in a community college in Northern Texas. Of the remaining individuals one is seeking a teaching position in California and the others have returned to Industrial positions.

GENERAL RESULTS

The most important question in an evaluation of a project of this nature is not asked regarding any specific objective, but rather to assess the overall success of the project. In this case, such a question can be answered with relative ease. The colleges which participated were asked to indicate their overall attitude concerning the internship program to obtain an evaluation from the schools. The internship students were asked to write a brief report of their activities in the project and their evaluation of such a program from the student point of view. In each case, suggested changes were solicited. The response was unanimously in favor of the program as a valuable asset to the prospective intern student and the college at

which the internship occurs. The colleges indicate that the intern, rather than being the burden of another individual to be taught, operates more in the capacity of an aid to the college instructor thereby lightening his load, while at the same time, getting valuable training and experience in teaching. The interns indicate that the program provides them with an opportunity to both observe an experienced teacher and to apply teaching methods the intern has learned to classroom situations while still in a position to discuss these methods with his University instructors. Most of the interns feel that they would have been unable to participate in the project without the financial support which was made available through stipend and travel expenses. The colleges concurred in this and, for the most part, felt some mechanism could eventually be arranged to provide at least the stipend through subsiderary budgets or allotments at the college.

SPECIFIC OBJECTIVES

1. Technical Background: The degree of technical background required of a teacher in the technical-vocational area in post-secondary schools has been a problem which has always confounded adequate definition. Thus, a man may have many years of practical experience in an area and be highly qualified to teach such practical treatments, but at the same time have gaps in his technical understanding which preclude good lecture treatment. Another person may have excellent technical understanding and thus be qualified to lecture on these areas, but be wholly unprepared to discuss practical applications or teach laboratory work due to inadequate work experience. Furthermore, the definition of work experience is not clear since a man in one company may actually accumulate less background in five years at work than he obtains in two years at a different company. In terms of an internship program, several steps can be taken to alleviate some of these problems.

A. Education Background: The prospective interns must be seniors or graduates of a technical-vocational or other program at a senior institution. This can assure definition of the intern technical competency and fits his program of study as follows:

(a) Senior students: In this case, we consider a student who is a senior in a technical or vocational discipline and who opts to teach in a post-secondary level. This student completes the normal degree program using the three to six units available on the internship project as approved elective coursework, thus counting toward the degree. The student is also

asked to take electives in Education to further expand his teaching competency.

(b) Graduate students: This student may choose one of two possible approaches: (1) Simply take the intern program as post-baccalaureate coursework for preparation as a teacher in post-secondary technical-vocational disciplines. Such work remains on the students' record and can be used at a later date toward an advanced degree; (2) Take the internship program coursework as part of a present Masters' program in Education or Technical Education. This would be appropriate for a student presently enrolled in an advanced degree program and interested in post-secondary technical-vocational specialization.

Since the intern has specifically completed or nearly completed a degree program in his discipline, sufficient technical background is assured.

B. Work Background: The prospective intern must fill out the Texas Education Agency "Statement of Qualifications" which is required of all technical-vocational teachers in community colleges. Each applicant is then interviewed using the completed statement as a guide in order to establish the depth of the work experience indicated. Thus, work experience is evaluated on a case by case basis with the idea of screening out those who have inadequate experience or experience, but too little depth to be of value in the teaching environment.

C. College-Intern Interview: As a final step in the evaluation of a prospective intern, the applicant is sent to a college which has requested someone with the intern's specialty for an interview. In this interview the college performs their own evaluation of the individual, technical competency, and work experience to determine if such background is adequate by their own standards.

The experience of this pilot project has indicated that a selection process based on the three items above will assure a high caliber of intern and satisfaction on the part of the participating colleges.

2. Interfaces: A set of guidelines was established as a result of the pilot project which defined the responsibilities of the senior institution, post-secondary school and intern. The guidelines are designed for maximum flexibility for special cases, while at the same time protecting the interests of each faction.

The senior institution will perform the initial selection of interns and make all arrangements for placement and interviews with community colleges. A complete set of records on interns and participation will be maintained. A total of six hours of credit will be made available to the intern for his participation. Three of these will be for intern teaching and three for a teaching methods laboratory course. Regular contact will be maintained with both the intern and community college faculty to assess the program operation.

In general, the community college has the responsibility of providing the intern an opportunity to obtain first hand experience of the teaching profession. As such, it is suggested the college allow the intern to enjoy pseduo-faculty status with invitation to attend faculty meetings and other faculty events. During the full internship year, the intern would benefit greatly from the following exposures:

1. Observation of college teachers in lecture and laboratory.
2. Allowed to conduct laboratory sessions on selected topics with preparation reviewed by the college instructor.
3. Allowed to prepare and deliver lectures on subjects approved by the instructor with prior review with the instructor.
4. Allowed to participate in any course program development occurring while the internship is in progress.

The community college should be advised of the following stipulations regarding the intern:

1. The intern should not be expected to be in attendance more than two days (or nights) a week except by special arrangement.
2. The involvement of the intern should be limited to supportive activities rather than complete course responsibility.
3. The total time in residence of the intern should be limited to six hours per week except by special arrangement.

The internship student must be clearly advised that a responsibility exists to maintain a regular schedule of activities at the community college. In general, the college will have established a

set of days and hours at which the intern is expected to be in attendance. The intern is expected to observe these hours as would be accorded to regular employment and conduct his college related activities as a professional.

3. Teaching Development: In the pilot project the intern students had a range of teaching experience as indicated in Appendix II. Discussions with the interns and colleges at which the internship occurred indicated that all of the interns, regardless of background, were able to perform well in their internship activities. All of the interns felt that the course meetings at the University were of very great value in supplementing the teaching experience received in internship duties. As a result of these observations, the following conclusions were arrived at:

1. No specific requirements need to be set for a perspective intern relative to coursework or experience in education.

2. The interns will be required to attend workshop sessions at the senior institutions where teaching techniques and problems will be discussed.

3. The interns will be advised to enroll in basic education courses to supplement the real experience to which the internship project exposes them.

4. Teaching Methods Laboratory: Consideration given to the teaching methods laboratory during the pilot project has demonstrated that the technical-vocational teacher must have expertise in the specialized techniques of lecture demonstration, audio-visual lecture presentations

and laboratory development. During the course of the pilot project, it was expected that multi-media equipment would be obtained and provided to the interns with training in the employment of these devices in their teaching activities. However, due to the effort required to negotiate the other aspects of the project and difficulties in equipment procurement, full effort was not and could not be extended to this objective. In their reports, the interns strongly suggested that such a laboratory would be of great value to future internship students. Numerous cases were cited where audio-visual equipment could have been used to great advantage if the intern had been trained in its usage. The interns felt that if a video tape system was available, it could have been used both in their internship duties and for group analysis of a taped intern presentation

during workshop sessions. In general, the internship program is incomplete without a laboratory of this type.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The rapid growth of post-secondary educational facilties in the technical-vocational areas exemplifies the emphasis which has recently been placed on education for employment. Just as the Texas post-secondary schools have been charged with the responsibilities of providing the educational facilities to meet this need, the senior institutions are obligated to provide the instructors to fill the teaching positions. Such an obligation is satisfied by preparing personnel who have work experience, technical competency and teaching expertise. The Internship Project, conducted over the last year, has demonstrated a practical mechanism by which the senior institution, working with the community colleges, can meet this obligation.

It is the conclusion of this project that an Internship Program should be established as a regular part of the educational system in the State of Texas. The findings of this study, with some further supporting work, have and will provide the guidelines along which such a program should be established. Other pertinent factors of such a program would be:

1. To assure adequate participation in the program by the most qualified students, it will be necessary to establish stipends to remunerate the participants. This can be done either through administration of appropriated funds through the senior institution

or the associated post-secondary schools. In general, the stipend ought to be sufficient to include travel expenses or separate travel expenses ought to be appropriated.

2. The Internship Project should be supplemented by workshop sessions and a teaching methods laboratory at the senior institution. The senior institution should provide credit for all of these activities and such credit should apply toward the technical or educational degrees.

It is furthermore recommended that a second pilot project be initiated for the 1973-1974 school terms to complete the objectives of development of the internship program. The most crucial item in this project would be the development of the Teaching Methods Laboratory and final definition of the program guidelines. Such a program would also allow for easier transition of such a program from a pilot project to an on-going program between post-secondary and senior institutions.

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3. Final Report, Engineering Technology Education Study, American Society for Engineering Education, January 1972.

4. Digest of Educational Statistics for 1971, U. S. Department of Health, Education and Welfare, 1971.

5. Third Annual Report, Advisory Council for Technical-Vocational Education in Texas, Austin, Texas, January 1973.

6. Form TEA-428, Texas Education Agency, Austin, Texas.

APPENDIX I

PARTICIPATING COMMUNITY COLLEGES

1. Alvin Junior College, 3110 South Mustang Road, Alvin, Texas 77511. Robert N. Townsend, Dean of Occupational/Technical Studies.

2. Brazosport College, 500 College Drive, Lake Jackson, Texas 77566, Truman T. Isbell, Director, Technical-Vocational Studies.

3. College of the Mainland, 8001 Palmer Hwy., Texas City, Texas 77590, William J. Perry, Jr., Director of Technical-Vocational Education.

4. Galveston College, 4015 Avenue Q, Galveston, Texas 77550, James H. Frazier, Dean of Occupational Education.

5. Lee College, P. O. Box 818, Baytown, Texas 77520, C. J. Collum, Dean of Occupational Education and Technology.

6. San Jacinto College, 8060 Spencer Highway, Pasadena, Texas 77505, Sydon Hrachovy, Dean, Division of Technology.

7. Wharton County Junior College, 911 Boling Highway, Wharton, Texas 77488, Mitchel L. Ammons, Dean of Vocational-Technical Education.

APPENDIX II

INTERN BACKGROUND DATA

Intern

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Married	M	M			M	M	M	M	M	M	M	M	M	M	M
Male/Female	M	F	M	M	M	M	M	M	M	F	M	M	M	M	M
Age	34	22	23	22	26	29	54	28	33	29	29	38	26	33	26
Semester Hours	95	102	128	88	121	159	237	109	123	102	124	124	218	150	95
FTE Years Work Experience	6	3.7	3.6	2	2	3	15	3.3	10	3	4.8	17	3	15	5
FTE Years Teaching Experience						3					3			2	
Degree		BA	BS			MA	BS		BS	BS			BS	BS	