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James F. Collins

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A PROGRAM DESIGN FOR A BACCALAUREATE DEGREE PROGRAM  
FOR APPROVED VOCATIONAL TEACHERS IN  
TRADE AND INDUSTRIAL EDUCATION

A Dissertation Presented

By

JAMES F. COLLINS

Submitted to the Graduate School of the  
University of Massachusetts in partial fulfillment  
of the requirements for the degree of

DOCTOR OF EDUCATION

May 1987

Education

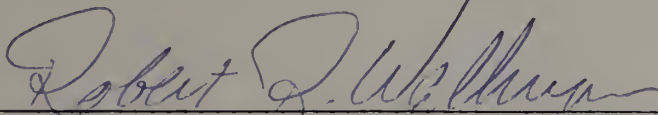
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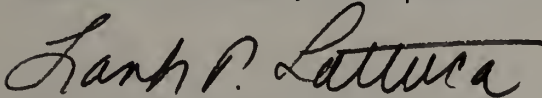
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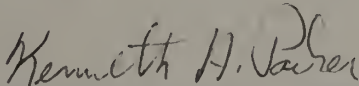
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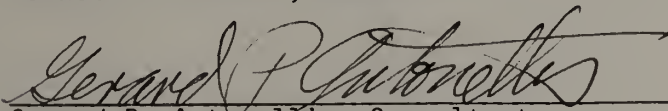
Robert R. Wellman, Chairperson of Committee



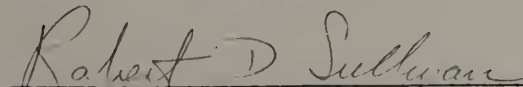
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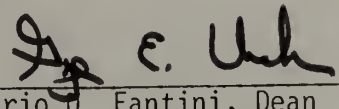
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## ACKNOWLEDGEMENTS

I would like to extend a special thanks to Robert D. Sullivan and Gerard P. Antonellis for their consultation and encouragement, and to James S. Price, Jr., an exemplary vocational education teacher.

This Work Is Dedicated

to

My Wife, Janice; My Daughters, Lynne and Kerri;  
and My Mom and Dad

for their understanding, inspiration, and patience

and

The Vocational Teachers

who are striving to improve themselves  
academically and professionally

ABSTRACT

A PROGRAM DESIGN FOR A BACCALAUREATE DEGREE PROGRAM  
FOR APPROVED VOCATIONAL TEACHERS IN  
TRADE AND INDUSTRIAL EDUCATION

MAY, 1987

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Directed by: Professor Robert R. Wellman

National concern about the quality of public school teaching has been reflected in several major studies and commission reports, each urging that universities work to upgrade the quality and performance of classroom teachers. Yet, legislation in Massachusetts and in other states nationwide permits the policy of hiring certain vocational public school teachers on the basis of their proficiency in a particular trade or skill, rather than on academic preparation and degree specialization. As a result, a number of full-time public school vocational teachers have not earned a baccalaureate degree. In fact, they have been exposed to little, if any, general education or pedagogical background.

This study proceeded from the residual effect of this hiring policy on vocational teachers of trade and industry in Massachusetts, leading to a survey of the need for a baccalaureate program for vocational teachers of trade and industry in the Boston area, and a sampling of the commitment of major universities to address the academic concerns of vocational teachers. The historical development of vocational education

is presented as a context for analyzing the conflict between advocates of traditional and vocational studies. An examination is made of the need for a baccalaureate program in the Boston area, alternative program design options, and existing academic structures and policies which impact upon the development of a baccalaureate degree program model.

Through the completion of this study, a practical mechanism for action in establishing a baccalaureate program for vocational teachers of trade and industry in the Boston area is presented. It is designed to utilize the existing program strengths of two separate branches of the University of Massachusetts at Boston, the Institute for Learning and Teaching and the College of Public and Community Service. The program model is one which provides for the pedagogical and liberal education needs of the adult learner, builds upon the occupational and academic experience of the vocational teacher, and maintains congruence with Chapter 74 of the Massachusetts General Laws.



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# CHAPTER I

## INTRODUCTION

### Plan of Study

This study is designed to provide the background information and the research base for the development of a baccalaureate program for approved vocational teachers. Legislation in Massachusetts permits certain vocational teachers, primarily those in trade and industrial education, to be hired on the strength of their expertise in a particular trade or skill rather than upon their academic credentials. Consequently, a significant number of vocational teachers in trade and industrial education are teaching who do not possess a baccalaureate degree and who have little, if any, general education or pedagogical background.

The purpose of this study was to develop a baccalaureate program model for vocational teachers in Massachusetts who possess occupational expertise and teaching experience. The plan of the study was to examine the historical development of vocational education and to analyze baccalaureate vocational educational programs as a context for the development of a baccalaureate program model. The proposed program model was designed to allow for rapid implementation by teacher training colleges and universities, and in so doing accommodates the personal and professional needs of vocational teachers in trade and industrial education. In addition, it is anticipated that by improving the overall background and training of vocational education teachers, positive carryover benefits in achievement should be realized by vocational education students in public high school classrooms.

### Definition of Terms

The following definitions are provided to help the reader understand the remainder of the study. These terms are commonly used by vocational educators both nationally and within the Commonwealth of Massachusetts.

#### Approval (Full):

Approval to teach in Massachusetts granted to instructional personnel for vocational programs who meet all the requirements for provisional approval as well as evidence of having completed 18 semester hours of designated courses at an accredited college or university.

#### Chapter 74:

Chapter 74 of the Massachusetts General Laws governs the administration and supervision of State-approved, State-aided vocational education programs in these major program areas: Vocational Agriculture, Distributive Education; Health Occupations: Occupational Preparation for Homemaking, Technical Occupations, and Trade and Industry.

#### General Education:

A mediating influence that, through institution-wide requirements, ensures that all students obtain from the many courses and programs available some knowledge of the ideas and culture that were once themes of the total liberal arts college.

### Trade and Industrial Education:

"(a) Any craft, skilled trade, or semiskilled occupation that directly functions in the designing, producing, processing, fabrication, assembling, testing, modifying, maintaining, servicing, or repairing of any product or commodity; and (b) any other occupation, including service occupations, that are not covered above, which is usually considered to be technical, or trade and industrial, in nature"

(U. S. Office of Education, 1966).

### In-Service Education:

Teacher education which provides education for experienced teachers for job retention, recertification, increased remuneration, promotion, job maturity, and professional improvement or satisfaction. It is usually geared to the post-baccalaureate level.

### Liberal Arts:

Academic disciplines such as languages, history, philosophy, and abstract science that are presumed to develop general intellectual ability and judgement as well as providing information of general cultural concern, as distinguished from more narrowly practical training, as for a profession.

### Manual Training:

Training in the use of specific tools or materials



geared to a definite trade or industry.

Policy Analysis and Research:

"The process of collecting, analyzing, and presenting information to policymakers for their consideration in making decisions that affect the public" (Bragg and McCaslin, 1985). It has a practical orientation to action evolving from problems in delivering equitable education programs and disseminating the summarized findings promptly in order to promote rapid implementation.

Pre-Service Education:

Teacher education which leads to employment in a teaching job and culminates in a baccalaureate degree.

Profession:

An occupation or vocation requiring education in the liberal arts or the sciences and advanced study in a specialized field.

Professional Development:

The continuous process of fostering the capabilities and performance of persons preparing for or already in professional work roles in the field of education.

Provisional Approval:

Approval to teach in vocational programs for a period not to exceed three years granted to instructional personnel in Massachusetts who can document work



experience and pass oral and written tests in their trade or skill.

Vocational Education:

Organized educational programs, services, and activities which are related directly to the preparation of individuals for paid or unpaid employment, or for additional preparation of individuals for careers requiring a baccalaureate or advanced degree (Knebel and Richardson, 1982).

Context of the Study: Role of the  
Massachusetts Board of Education

The Massachusetts Board of Education, through its Division of Occupational Education, is the State agency responsible for the administration and supervision of federally-funded and State-approved (Chapter 74) vocational education programs.

Within the State's 27 regional vocational-technical school districts and 183 county and other high schools are offered over 125 occupational programs in the following areas: Agriculture, Distributive Education, Health, Consumer and Homemaking, Business and Office, Technical, and Trade and Industry. The increased emphasis upon occupational programs within the public schools is underscored by the Board of Education's estimate that over two-thirds of all public secondary school students enrolled during the school year 1984-1985 were enrolled in occupational education courses (Massachusetts Department of Education, 1986).

Requirements for employment of prospective vocational teachers and practices geared to maintain educational standards vary widely from state

to state and even within institutions in a given state. Basically, there exists no nationwide standard of prescribed teacher education programs, nor agreement as to provisions for the certification of vocational teachers. Much of what has become acceptable practice for the hiring of skilled craftsmen as teachers is a reflection of market conditions of alternating shortages and surpluses of teachers. The fluctuating demand for teachers has impacted upon the policies of certification agencies within the states and has influenced the curricula requirements in vocational teacher education programs.

Although regulations do vary from state to state, the organizational structure alignment of state agencies responsible for the approval or certification of vocational teachers falls primarily into three discernible patterns. One pattern is characterized by the establishment of an independent commission which is delegated full authority over matters of teacher certification. The commission is vested independent control by a state legislature allowing the commission to function essentially as a full authority standards and practices board.

Another pattern of organization utilizes a teacher standards and practices board which serves in an advisory capacity to the State Board of Education, which holds ultimate authority.

A third organizational design presents a structure wherein the State Board of Education and/or a state agency controls the certification of teachers. Within this organizational structure the State Board of Education may assume control or may delegate the authority to another state agency assisted by an advisory council.

It is not the purpose of this study to analyze the structure or effectiveness of these governing agencies in the various states or how they influence the vocational teacher certification process. Rather, it should be noted that within each state a unique bureaucratic structure has evolved, each with its own standards, operating principles, and processes which must be adhered to in addressing any teacher training program or certification considerations. This in turn has led to a lack of consistency between states relative to the establishment of vocational teacher training programs, uniform standards of quality, or a consistent mechanism for attaining certification. Nonetheless, it should be noted that progress has been made in establishing interstate agreements in some areas of vocational education.

In Massachusetts, the Division of Occupational Education, acting under the direction of the State Board of Education and the Commissioner of Education, is responsible for implementing the requirements of Massachusetts General Laws, Chapter 74 relating to state-aided vocational education. The Associate Commissioner of Occupational Education is the Chief Officer of the Division of Occupational Education and is accountable to the Board of Education through the Commissioner of Education.

Skilled craftsmen, artisans, and tradesmen have traditionally been hired on a provisional basis in the technical and the trade and industry areas as teachers of vocational students in the public schools of Massachusetts. However, in Massachusetts, the Division of Occupational Education of the State Department of Education has mandated that the provisional appointment may last only three years, after which time a teacher of vocational subjects in vocational schools must obtain full approval.

Provisional approval is gained by documenting the possession of a high school diploma or Massachusetts state equivalency certificate, six years of working experience within a specific trade, and by passing practical and written examinations in one's occupational area. The State Department of Education's Division of Occupational Education verifies the candidate's experience and utilizes the resources of area colleges and vocational schools to administer the test.

Full approval is obtained by completing 18 semester hours of course work approved by the Division of Occupational Education, such course work to be taken at colleges and universities which also have been approved by the State Department of Education. Teacher education institutions have been instrumental in providing the means by which the vocational teachers could obtain full approval and professional improvement under the Chapter 74 state regulations governing vocational education (Appendix A).

At one time, both provisional and full approvals were totally within the domain of the State Department of Education's Division of Occupational Education. Not only did that agency carry on the various approval processes, but it also conducted the courses leading to full approval. In 1971, however, the State delegated the total responsibility for the course component leading to full approval to four institutions of higher education: Boston State College, Fitchburg State College, Westfield State College, and the University of Massachusetts at Amherst. As a result of the merger with Boston State College and consolidation of its courses and programs, the University of Massachusetts at Boston became one of the approved institutions.

It should be noted that applicants for teaching positions in other occupational fields of study (such as Agriculture, Health, Distributive Education, Occupational Home Economics) must adhere to different regulations than those required for trade and industrial approval. These individuals are required to possess a bachelor's degree in addition to a specified number of credits in one's occupational area, and three years of recent full-time work experience in the occupation. In addition, these applicants are required to complete an 18 semester hour vocational teacher training program. Appropriate licensure is also required in certain fields (such as Allied Health, Electrical) [Massachusetts Department of Education, 1986].

However, in all cases, there are no lifetime teaching certificates in vocational education in Massachusetts, as the completion of professional improvement within every two-year period is required in order to maintain one's instructor certificate.

#### Importance of the Study

In 1985, the public schools of Massachusetts offered occupational education programs which employed 8,372 occupational education personnel. Of that number, the largest amount (2,371) were teaching in the area of trade and industry, impacting upon an overall enrollment figure of 33,360 students (Appendix B).

A study of enrollment figures at the Center for Occupational Education at the University of Massachusetts at Boston indicates that over 300 persons per year obtain provisional approval, and that most of those reside in eastern Massachusetts, close to the Boston campus. Of



the 300 plus craftspersons per year receiving provisional approval, a majority follow through by taking 18 semester hours of university credits towards becoming fully approved. Statewide it is estimated that since the approval process was initiated (1914), over 11,000 individuals have received full vocational approval. Yet, of all those who begin their teaching careers without a bachelor's degree, only about half continue their education beyond approval to complete degree requirements (Appendix C).

Unfortunately then, for many Massachusetts vocational teachers, their entire formal educational preparation for teaching (beyond a high school diploma or equivalency testing) consists of the 18 semester hours of approval courses. Thus, there exists a situation where a sizable number of vocational teachers currently employed in the public schools of Massachusetts do not possess a degree of any kind, nor the rudimentary academic background and training of a college freshman. Furthermore, the educational system is geared to continue to foster this situation which allows the teacher to teach while having no background in the liberal arts or basic general education. Yet, these same educators serve as role models and teachers who are expected to have a direct influence upon the youth in Massachusetts high schools.

This vocational-oriented clientele is cognizant of the need to pursue a college or university degree and is being pressured to do so. These individuals constitute a unique group with all of the characteristic needs of the typical adult learner. They have experience in various work experiences and backgrounds (drafting, electronics, sheet metal workers) and are genuinely fearful and distrustful of the academic

milieu, as well as their own ability to function within a college or university environment. This group is hindered by severe time limitations due to full-time work and part-time jobs, restricting their availability to attend classes or to commit to a long-running program. These problems were vocalized by vocational teachers attending an exploratory meeting held at the University of Massachusetts at Boston. (See pages 85 and 87.)

To compound this situation even further, one need only contemplate the impact to be felt by the projected increasing demands for vocational teachers. A national study undertaken in 1986 by Richard Lynch relative to the recruitment and retention of all secondary school teachers indicates that by 1993, 20 percent of the additional demand for secondary teachers will be in a subject area associated with vocational education (agriculture, health, trade and industry, etc.). By tabulating the percentage of total high school credits completed in vocational educational courses by the average high school senior (20 percent) with data indicating the percentage of total enrollment in vocational education by each of the nine vocational subject areas, Lynch has provided conservative teacher demand projections for each of the vocational education subject areas from 1984-1993 (Appendix D).

Faced with the projected increase in demand for vocational education teachers, there would appear to be greater need to insure that adequate provision is made for the academic and instructional needs of new vocational faculty members. Simultaneously, efforts should be considered which will cater to the educational needs of vocational education teachers who are currently employed in the public schools of

Massachusetts who have yet to obtain full approval as vocational education teachers.

In light of the dilemma of providing for the current needs of vocational teachers, while considering the implications of increasing numbers of new teachers entering the field, it would seem incredible that public policy would condone and continue to allow undereducated teachers to remain in the schools. It follows that one of the first steps toward improving the quality of public school education is to upgrade the knowledge, teaching skills, and overall preparation of the teachers of public school students.

In addition, the absence of a baccalaureate degree among teachers is creating some unique personal problems for the vocational teachers. Although skilled craftspersons are difficult to find, much less retain on a teacher's salary, some school systems are exerting pressure to have all teachers within their school district attain degree status, not merely courses towards approval. Also, it should be noted that despite the fact that loss of these skilled craftspersons/teachers would seriously impair the effectiveness of vocational instruction, pay scales, incentives, and promotions historically have been geared towards quantity of academic degrees or credits beyond degrees. In addition, the excessive amount of travel time needed to reach campuses which offer minimal course offerings (let alone programs) for vocational educators, has proven to be a discouragement and an impediment to those who wish to continue their education.

On a more subtle level, trade and industrial vocational teachers have indicated that they are experiencing peer pressure, elitism, lack



of cooperation, and lack of respect from their (multi) degree-holding colleagues. Indeed, a seven-month study by the National Commission on Secondary Vocational Education, entitled The Unfinished Agenda (1984), points out that teachers with expertise in an occupational area have greater need for access to educational programs that will enhance their teaching skills and help them to obtain a baccalaureate degree than do vocational teachers already holding degrees. Their findings confirm that a degree can be important to the image and professional stature of vocational teachers. "While highly respected for their occupational expertise, if their credentials are different from those of other vocational and academic teachers, they may become stereotyped" (National Commission on Secondary Vocational Education, 1984).

Feistritzer (1984) describes the situation as paramount for educational improvement efforts, stating that "nothing in American education is in greater need of reform than the way we educate and certify classroom teachers." The onus for providing for the improvement of the education and certification of teachers falls upon the local institutions of higher education. It is essentially an institutional initiative which will provide the mechanism for change, given the stimulation and support of federal and state governments, accrediting divisions, investigative commissions, consortia, and the like. Turnbull (1982) reinforces the need for institutional initiative by stating, "Educational improvement is fundamentally a local enterprise. The people who bring it about are those who provide educational services. . . ." Vocational teacher educators, department heads, and deans of local colleges and universities are the most likely groups to work together to bring about

program improvement for vocational teacher educators.

### Rationale and Purpose of the Study

Many vocational teachers are lacking a baccalaureate degree, yet they need a degree in order to retain their jobs, gain peer acceptance and self-esteem, advance professionally, and improve their academic and pedagogical skills. Awareness of the need for more extensive and more effective vocational teacher training is underscored by Hord and Bethel (1986) when they state that the "purpose of teacher education is to develop teachers who are not only knowledgeable about subject content and teaching, but who are also skilled in pedagogy."

The pressing need for skilled vocational teachers has created a situation where nondegreed individuals are hired to instruct and prepare vocational high school students for entry-level employment. These instructors are granted approval to teach upon completion of 18 semester hours of State-approved courses. It is ironic that during a period of history when requirements for general teacher certification as well as degree requirements are becoming more rigorous, vocational education continues to condone a situation which permits the employment of teachers with very minimal or no pedagogical or academic preparation.

After examining the status of vocational education nationwide, the National Commission on Secondary Vocational Education (1984) made several recommendations relative to teacher recruitment and preparation. Chief among their suggestions was "that action be taken by university teacher educators and local school officials to upgrade the quality and performance of vocational classroom teachers." Specifically, the Commission

cited as its first recommendation the need for universities to offer credit for applicable work experience towards a baccalaureate degree. In addition, it was emphasized that certification for all teachers should include both academic program and work experience records of demonstrated mastery in the particular field.

At a time when many colleges and universities are extremely concerned over enrollment projection figures indicating a paucity of prospective college-age students, there exists an untapped source of prospective students ready and eager to attend college if appropriate programs were available. In the Boston area, for example, there is no public institution which is committed to providing comprehensive occupational education programs or teacher education for the experienced vocational teachers. Yet, there exists a committed group of adults with immediate as well as future needs of the services which a university can provide.

#### Outside Consultation

The assistance of Dr. Ruppert N. Evans, a scholar and renowned specialist in occupational education, was requested on behalf of the Institute for Learning and Teaching at the University of Massachusetts at Boston. He was asked to undertake a feasibility study of establishing baccalaureate and graduate programs at the University of Massachusetts at Boston.

In a summation letter to Dr. Maurice J. Eash, Director of the Institute for Learning and Teaching, dated 20 November 1985, Dr. Ruppert Evans makes note of "the unusual vacuum of support for occupational

education in the metropolis." Dr. Evans continues his report by providing a listing of nine recommendations based upon his study of relevant documents and discussions with University of Massachusetts at Boston faculty, administration, and adjunct faculty; directors of local vocational schools; and the director of a large industrial training department in the Boston area. Chief among his findings and recommendations was that the University of Massachusetts at Boston should become heavily involved in all levels of occupational education. His initial recommendation was:

1. University of Massachusetts at Boston should develop programs for occupational educators. At the baccalaureate level, the most important group to be served is in trade and industrial education. Vocational and special needs courses for certification should be continued. The baccalaureate should include these, plus credit in technical teaching specialties and rounded by courses in pedagogy and general education. Credit in the technical teaching specialties should be given only for competencies validated by state examination and acceptable to the Center staff. (Evans, 1985)

Through the development of a program which will provide a baccalaureate degree geared to certain categories of vocational teachers, the University of Massachusetts at Boston will be supplementing its enrollment figures; improving the educational preparation and status of teachers, which impacts upon the quality of public school education; and establishing a foundation for the development of graduate programs as well as a dynamic center for occupational education within the Boston area.

The purpose of this study, therefore, was to develop a program model which could lead to the inclusion of a baccalaureate degree for vocational teachers of trade and industrial education at the University

of Massachusetts at Boston.

### Significance of the Study

Certification standards have become notoriously adaptable to the fluctuating conditions of supply and demand of available teachers in a given vocational skills area, often to the complete abandonment of requiring background in the liberal arts. As a result, there exists a large population of vocational teachers of trade and industrial education who, although skilled in their craft, do not possess a baccalaureate degree, or a basic foundation in liberal arts training.

There is need for a program which will provide additional general education as well as professional skill for the practicing trade and industrial teacher who lacks college training and degree status. Because of the existing approval policy in Massachusetts, the lack of degrees by trade and industrial vocational teachers and their poor overall image, both students and their teachers in trade and industrial programs are typically undervalued by their colleagues in academic programs. When one considers the rapid rise in student enrollments in vocational schools over the past decade, the overall increase in the quantity of new programs being offered, and the hundreds of teachers who have minimal general and professional preparation for the positions they hold, the critical nature of the problem takes hold.

Teachers today are expected to assume responsibilities with their students that far exceed the qualities of a one-dimensional, skill-oriented specialist. A broader-based, well-rounded educational program would contribute to the personal growth and advancement of trade and



industry teachers, and more importantly would provide a more knowledgeable teacher for the students. To allow a person who has met minimal certification requirements to teach in our schools without insuring that background has been provided in the liberal arts and related fields creates an untenable situation for the teacher as well as depriving the students of the quality and breadth of experience which they deserve. Since, as many writers claim, all education today is and must be both liberal and vocational, the task ahead is that of finding an appropriate blending of both, so that they contribute to each other in a way that is mutually supportive and acceptable.

If these two equally essential preparations for life are thus divorced, a merely liberal education will indeed tend to become useless, and merely vocational training, crass. What is obviously needed is a truly liberal academic community in which the study of art and typewriting, of philosophy and accounting, of theology and medicine, or pure and applied science are, though admittedly very different, judged to be equally honorable and valuable in their several ways.  
(Greene, 1955)

This action-research study was vital to hundreds of vocational educators in Boston and surrounding areas. It was designed to be an initial step in establishing a comprehensive plan to change the policy programs, and emphasis within a major university and to compensate for a perceived weakness in the state certification regulations which permits nondegree teachers to teach in the public schools. It is fully expected that this study will lead to the eventual inclusion of a baccalaureate program for vocational teachers within the Institute for Learning and Teaching at the University of Massachusetts at Boston. This program, in turn, could serve as a catalyst for the development of graduate programs in adult education geared to the vocational educator,

and the establishment of a resource center for occupational studies and industrial policy.

In addition to providing for the academic and professional growth of Massachusetts-approved vocational trade and industrial teachers, it is expected that indirect benefits of more quality education will be realized by vocational public school students whose teachers will receive a foundation in the liberal arts as well as thorough professional training.

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## CHAPTER II

### BACKGROUND CONSIDERATIONS: REVIEW OF PERTINENT INFORMATION

#### Introduction

The review of the literature was conducted from two distinct points of reference. One component of the study centers on the historical perspective for the development of vocational education and baccalaureate programming and the liberal arts, while the second concentrates on adult education and the pedagogical and formal preparation of vocational teachers. Specifically, the study concentrates on written material describing various programs and courses of study; relevant written material found in books, journals, periodicals, dissertations, symposia reports, unpublished papers, and commission reports.

#### Historical Development of Vocational Education

##### Vocational Education in Early America

The historical development of vocational education in America followed a meandering course of progress fluctuating from periods of strong alignment with the overall public school movement to times of close alignment with business and industry, and times of becoming an independent and distinctive movement of its own.

During America's early years, Benjamin Franklin advocated utilitarian purposes of education as being most crucial in developing a middle class. Franklin contended, as did Jefferson to a lesser degree, that in such a young country, education should not be confined to learning just

for learning's sake. They believed that there was too much work to be done in our fledgling nation to afford such a luxury. Franklin had no argument with the classics per se, only their monopoly of higher education, thus limiting the breadth of preparation he envisioned as necessary for a new world. He incorporated a curriculum geared to success in business and the professions (English, Math, History of Commerce, etc.) as part of the academy which he founded in 1759. Franklin suggested that graduates should be prepared to undertake any situation upon completion of school. "Thus instructed youth will come out of this school fitted for learning any business, calling or profession" (Bailyn, 1960). Since there was no formal system of free public education in existence in any of the American colonies through the close of the Colonial period (1783), much of the early vocational education training was reflective of that which had been transpiring in Europe. A comparison of conditions in England with the views of the colonists showed that the dominant attitude in most colonies was that of a disbelief in governmental action regarding schooling for the masses and a general dependence on individual initiative and effort for the education of the selected few who were expected to be leaders. The education which was provided for the great mass of people was to be moral, with vocational competence to be gained through the apprenticeship system. The essence of that inherited philosophy was that each man was responsible for the care and education of those dependent upon him (Monroe, 1940).

Since the Constitution made no reference to any provision for federal responsibility for education, the onus for educating the masses became one of individual State responsibility as overseer of the actions

of the local communities. The transition from church and family control of education to State support and control was a gradual process with periods of difficulty as change was enacted. Nonetheless, a public consciousness was forming which contained expectations that literacy was for all--as a basic right for all people, not merely as it related to purposes of improving the soul. Several distinct forces were instrumental in promoting this notion and pushing society closer to a free public school system.

The Sunday School Movement, which emerged in 1791 in Philadelphia, promoted the idea of secularizing schools by bringing together children of all classes for instruction. This movement built upon and popularized the concepts which subscription societies (The Manumission Society 1785 established by philanthropic individuals) had been trying to promote--namely, free education and literacy for the poor.

Faced with burgeoning classrooms and a wide disparity of pupil age and ability levels, the Lancastrian Movement evolved as a means of providing instruction in reading through the use of student monitors, who in essence became tutors for their peers.

Finally, the Infant School concept was developed in Scotland and was adopted in Boston in 1816. Thereafter, it was used as a curriculum design for children who would enter the grammar schools.

"These four distinct educational movements: the secular Sunday School, the semi-public city School Societies, the Lancastrian plan of instruction, and the Infant-School idea--all arising in philanthropy--came as successive educational ideas to America during the first half of the nineteenth century, supplemented one another, and together accustomed

a new generation to the idea of a common school for all" (Cuberly, 1934).

### The Apprenticeship System

One of the most fundamental and popular educational institutions, between 1783-1830, was the apprenticeship system, a system whose antecedents date back to medieval Europe and even the Greeks and Romans. The American system of apprenticeship training was established by the Massachusetts Bay Colony Law of 1642 which authorized the town leaders to periodically evaluate the condition of children living with their parents or masters relative to their ability to read and understand the principles of religion and the laws. Authorization was included to take neglected children from parents or masters and apprentice them to new masters. All children were required to receive apprenticeship training in some vocation. The only exceptions were for children of wealthy parents who could provide the required education and see to it that children were not needy (Monroe, 1940). Although apprenticeships as practiced in England provided only a home and some practical vocational training, the colonists designed a major modification in that system. Regardless of whether the apprenticeship was voluntary or involuntary, colonial laws mandated that the apprentice had to be taught a useful vocation, but in addition one had to be taught a fundamental literacy. This latter provision was designed to insure not only that skilled labor would be readily available, but also a basic education would be provided to each individual.

Upon analysis, the growth in popularity of this system would seem obvious. At no cost to the taxpayer, youth were trained in a vocation

leading to future employment and self-sufficiency, and, in addition, they were taught enough to become literate. Furthermore, parents were relieved of the responsibility of providing sustenance as well as training for their children, whereas the employer was guaranteed a ready market of able-bodied workers trained to his liking. Literate masters were obligated to instruct large numbers of apprentices in reading, writing, and ciphering, thus providing schooling according to the hand-me-down process of tradition and custom, trial and error, and imitation.

This dual concept of apprenticeship training, with its combination of both vocational training and general education, was a unique, American adaptation of other apprenticeship designs, and was significant in providing for rounding off the individual in the civic, moral, and religious areas through its literacy component. It was also the beginning of an attempt at linking the requirements sought by advocates of general education with the needs as seen by vocationalists--a problem which would haunt American education for centuries.

In time, the rapidly changing social, economic, and political conditions in America brought a decline in the apprenticeship system. The abundance of land, the mobility of the people, the increased immigration of skilled craftsmen and workers from Europe collectively brought about the decline of the apprenticeship system. Another contributing factor in the decline was caused by the hindrance which was felt by masters in having to provide the educational component of their obligation. In time, the masters began to delegate the educational responsibility of their situations to more formal schools. This tendency to shift responsibility signaled the advent of evening schools (Bailyn, 1960).



### Transition in Schooling

The idea of conducting evening schools for craftsmen was an adoption from England's institutions which were called Mechanic's Institutes. During the first half of the nineteenth century, these institutions had emerged throughout England and after 1820 they began to surface in America. However, they never became as popular in America as they did in England. In both countries, industrial and agricultural needs of the people projected the desire to improve the educational and social conditions of the common man. Aided by private philanthropists, a number of institutes started, floundered, and eventually dissolved. Nonetheless, the mechanic's institutes were, for all intents and purposes, the forerunners of our present evening industrial schools.

The shifting of responsibility from the skilled craftsmen to the institutes signaled the beginning of the decline of apprenticeships as a system of education. The most severe blow to their demise, however, was dealt by the growth of factories in the nineteenth century and the corresponding need for cheap, unskilled labor gearing towards mass production rather than skilled labor. The rapid development of labor-saving machinery also contributed greatly to the decline of apprenticeships, at first in the textile industries and later in industries reliant upon the steam engine. Large markets of people demanding more and more goods made it impossible to supply the growing needs of a rapidly expanding nation. It follows then that changes in industry and society would require changes in schooling.

Fearing the loss of their social status, as well as their way of life, skilled craftsmen began to organize themselves into associations

for self-support and help. Becoming more active publicly and politically, they demanded that laws be passed to protect their trades (such as no imprisonment for debt), and that free public education be provided. An organization of New York craftsmen put forth the idea that all citizens should receive the same education "under the same roof . . . where the road to distinction shall be superior industry, virtue and acquirements, without reference to descent" (Miller, 1967).

During this same period of turmoil leading to a transition in schooling, mechanic's institutes were providing extensive instruction in subjects related to technical education. Closely aligned to this movement was the emergence of lyceums which began in the 1820s under John Holbrook. Holbrook's design was to have the lyceum provide practical scientific instruction for workmen which he predicted would result in a more intelligent worker as well as a superior product. The lyceum's link to general education was provided through the inclusion of literary studies in its curriculum as well as its major stress upon "useful and practical instruction" (Bennett, 1927).

Following the impetus provided by the mechanics institutes and lyceums, another movement surfaced which pushed for the establishment of industrial universities for the nation's farmers and mechanics. A series of education conventions, held in Illinois in 1852 and 1853, proposed the establishment of an industrial university in every state of the union. The industrial university would become the hub of an educational system around which other institutions, such as common schools, lyceums, etc.,

could cooperate in a joint effort for practical education (Barlow, 1976).

### The Common School Movement

Meanwhile, from 1830 to 1870, the Common School Movement was growing due to a revitalization of interest in public elementary schooling. The movement was not the result of a planned, cohesive strategy, rather it was the result of a series of isolated state movements for reform of education which occurred during the same fifty-year period. During this time, great economic expansion occurred, immigration on a large scale began, means of communication multiplied, wealth increased, and population shifted. The population in 1830 was nearly 13 million people, four times what it had been in 1790. By 1860, the population was nearly 32 million, of whom less than half occupied the same land area as in 1790 (Monroe, 1940). By the 1870s, most of the states east of the Mississippi had established working systems of education and free schools by statutory enactment.

The three basic goals which emerged from the Common School Movement were: to provide a free elementary education for every white child living in America; to establish training schools for teachers; and to maintain state control of the public schools. This latter goal was responsible for the limited success of the movement, because without centralization the steps to reform and the extent of the reform would be carried out sporadically at best.

### Foreign Influence

The Centennial Exposition in Philadelphia in 1876 provided a



dramatic infusion of energy into the vocational education movement. The industrial and educational exhibit of the German Government made a profound impression upon American visitors because of their explicit charts and graphs depicting their application of science and invention of labor-saving machines. The extensive use of drawing in Germany's schools was soon to be copied by the schools in America.

Equally as significant as the German presentation, however, was the progress displayed by Russia, primarily through its Imperial Technical School of Moscow directed by Victor Della Vos. Della Vos had pioneered a breakthrough in vocational education by organizing and requiring instruction shops for students before they would be allowed to work in construction shops. Separate shops were provided for carpentry, joinery, blacksmithing, with each presenting a curriculum of graded exercises in logical order ranging from simple to the complex. Similarly, appropriate models drawings, and tools for each mechanical art, were arranged in the same progressive order. Although no attempt was made in any of these shops to actually construct any items, the theory and training provided was thought of as a substitute for the apprenticeship training of the construction shops.

The insights of Della Vos were appreciated and adopted by John D. Runkle, President of the Massachusetts Institute of Technology, and Calvin Woodward, Dean of the Polytechnic School at Washington University in St. Louis. Independent of each other, they established manual training schools and instructional shops which gave instruction in the manual arts, mechanical processes, and tool usage, as part of the school's general system of education. Thus, the manual training stage of

vocational education had its beginnings in the United States in the 1870s.

### The Morrill Act

Meanwhile, at the collegiate level, The Morrill Act of 1862 provided some far-reaching federal encouragement for the vocational education movement by providing that public lands be donated to establish colleges for the benefit of agriculture and the mechanical arts. Interest derived from the sale of land was to be used as an endowment for the support and maintenance of a college and to promote the liberal and practical education of the industrial classes. Although the Act was not specifically designed as vocational education legislation, it did set a precedent for federal support of collegiate-level vocational education in agriculture and mechanical arts.

### The Sloyd System

At about this time, a system of manual training which developed in Scandinavia (the Sloyd System) surfaced and quickly became quite popular in America. The Sloyd System proposed to develop in students manual dexterity along with qualities of self-reliance, independence, order, and neatness. Students were expected to create articles, mainly of wood, which would serve a utilitarian purpose around the home. As this system gained in momentum, the need for experienced teachers also became important, and great stress was placed on the qualities of a prospective teacher of Sloyd. "He must be sound of character, possess educational tact, and above all he must lay a proper foundation from which instruction could develop" (Church, 1976). A good teacher was desired, not

merely a person who possessed a skill in a particular craft. This concept of a "good teacher" was a significant departure from earlier thinking that anyone who was skilled in a trade would be a "good teacher." Even today, however, there exists this same dichotomy of thinking regarding what makes a good vocational education teacher.

### Rising Criticism and Support of Education

During the 1880s, the early beginnings of the labor unions (the Knights of Labor and the American Federation of Labor) began to advocate industrial education and the manual arts as requisites within the school curriculum. During the next twenty-year period, unions garnered support from a mix of social groups and reformers, some of whom were interested in enacting child-labor laws, others concerned with the plight of the increasing number of unskilled immigrants entering the country, and others who were alienated by the classical bookishness characteristic of public school instruction.

Thus, by the late nineteenth century, the public schools had developed a strong base of support among the populace. However, critics of the common schools began to advocate schooling designed for specific groups of children, geared to the roles they would be expected to assume in society. From this thinking, a new concept of democracy in education emerged. The traditional common school's provision of a single program of literacy instruction because all children were presumed to be equal was supplanted by the idea that although equal, not all were the same. Real equality of opportunity then could not be gained by a narrow program of instruction. Rather, the introduction of vocational training

into the curriculum was viewed as the most democratic approach (Lazerson, 1974). This call for differentiated or special schooling rather than common schooling led directly to the emergence of manual training (training in the use of specific tools or materials geared to a definite trade or industry), and industrial training (training for general categories of work which usually included part-time work at profit-making enterprises). The overall objective behind this philosophy was to teach the students to be industrious rather than attempting to teach them a technical trade.

By the late 1800s, the growing pressure from manufacturers, the swell of immigrants, and the growth of cities created a groundswell of criticism toward education. The schools were depicted as being a waste of human potential, inefficient, too book oriented, and too isolated from the realities of life. In 1911, the National Association of Manufacturer's Committee on Industrial Education advocated separate vocational schools which were to be staffed primarily by people from industry. These separate vocational schools were to be designed similar to the German vocational training structure which had the objective of forcing the schools to move away from teaching theories and deal instead with realities. The United States Commissioner of Education, David Snedden, followed up on this principle by advocating pluralistic education in which cultural and vocational education would be separate, but equal. He advocated separate vocational education programs with course curricula developed around job analyses as provided by industry.

However, public sentiment towards education was to continue in a state of flux right into the next century due to the ever-changing social

and economic conditions. By the close of the nineteenth century, criticism of manual training increased because programs of manual training had not kept pace with society's needs. Manufacturing methods were changing due to new devices and processes evolving from research, invention, and discovery. These new devices and processes required new tools, operations, and methods. These needs in turn necessitated a system which could provide training and retraining of both the novice and the experienced worker. Systematic procedures were needed to assist manufacturers and producers to meet the changing demands within their respective fields, as well as try to keep pace with society's seemingly insatiable demand for more goods and quicker service.

After the turn of the twentieth century, manual training was still criticized by those who saw it as being too narrowly practical as well as from those who criticized it as being too theoretical. Training students for "real jobs" (farm and workshop) rather than stressing literacy training was seen as the ideal to be realized. The philosophical rift between vocationalists and the liberalists began to take shape, with one group espousing the concept of teaching manual training through working with one's head as opposed to merely working with one's hands. Debate between these opposing advocates of education centered around the vocationalist's criticism that manual training schools were "much more like schools than shops, whereas they should be more like shops than schools" (Draper, 1908).

#### State and Federal Involvement

In Massachusetts, much of this debate was temporarily resolved through the Douglas Commission which issued a report on vocational



education in 1906 (Report of the Commission on Industrial and Technical Education, 1906). Through the Douglas Commission's findings, it was determined that technical training was no longer considered an intellectual or cultural exercise, but rather a vocational choice. All cities and towns were urged to establish independent industrial schools for instruction in the principles of agriculture and domestic or mechanic arts or to provide new day or evening elective industrial courses in existing high schools.

As a spinoff to the Douglas Report, the National Society for the Promotion of Industrial Education was formed. A primary objective of this society was to encourage federal leadership and involvement in providing for the needs of vocational education. The work of that Society reached fruition with the passage of the Vocational Education Act of 1917 (The Smith-Hughes Act).

Under the provisions of that bill, the federal government agreed to provide matching funds for individual states for programs in vocational education in agriculture, the trades, industry, home economics, and teacher training in these fields. A major factor of the Smith-Hughes Act was that it authorized and appropriated funds continually and permanently, thus eliminating the need for an annual appeal for funds to Congress. To qualify for these funds, each state was required to designate a state board that would develop a state plan indicating how funds would be used, and to report annually to the Federal Board of Vocational Education. Although this arrangement was intended mainly as a safeguard to oversee the disbursement of federal funds, a positive side-effect was inherently built in, namely, providing organized and recognized representative voices for vocational education. As to the impact of the bill



itself, the results can best be seen by comparing the number of students enrolled in vocational courses in 1918 (165,000) with the number enrolled in vocational courses by the end of the 1920s (1 million) [Sears, 1931].

Additional federal support and funding for vocational education was forthcoming with the passage of the George Ellzey Act in 1934 and the George Deen Act of 1936. But federal funding could not totally offset the dire economic conditions caused by the great depression. With millions of people jobless, the task of finding work upon leaving school was difficult if not impossible. Nonetheless, through the legislation provided by the Hughes Act, the Ellzey Act, and the Deen Act, many adults entered part-time vocational training. Vocational education at that time was seen as specific rather than general, concrete rather than abstract, related to secondary school education rather than collegiate level, and closely related to job requirements and needs. Within that context, educational subjects were taught as they related to practical occupational problems rather than as separate classical subjects worthy of study on their own merit.

Through the New Deal legislation, programs were established which provided nonschool vocational programs (Civilian Conservation Corps) as well as cooperative programs in conjunction with public vocational schools (W.P.A.; National Youth Administration). With the approach of war in the 1940s, more intensive federal support was forthcoming for the training of defense production workers for war-related trades and jobs. The National Defense Program was launched in 1940 as a means of combining the efforts of the Office of Education, local vocational authorities, and labor-management advisory committees, and to provide training

for both employed and unemployed persons for war production purposes. The extreme urgency of the times did not permit vocational schools the luxury of providing extensive training to its students during those tumultuous years. Rather than turning out finished craftsmen, training objectives were limited to job units which could be readily learned and which allowed for rapid deployment in the job market. Thus, the beginnings of training for assembly-line work, piece-work, and component rather than finished-product production. The eventual phasing out of the War Training Program in 1945 left the vocational education movement with excellent rapport with industry, a better idea of the jobs and the skills necessary to fill those jobs, and a sense of recognition as well as accomplishment for training millions of workers for an entirely new variety of jobs.

#### Problems and Priorities: 1950s to 1970s

During the late 1950s and early 1960s, economic conditions and the changing needs of the American postwar society influenced a host of legislation which was designed to deal with groups of disenfranchised people. Economic recessions in 1958 and 1961 caused unemployment to reach its highest level since the 1930s. The plight of civil rights groups, women, minority groups, older workers, the undereducated, and the unskilled caused an estimated 32 million Americans to live at the poverty level in 1962. In addition, population projections at that time suggested that over 26 million youth would be entering the job market between 1960 and 1970--more than any other time in our history--while national dropout figures for 1961 indicated that two-thirds of our youth between the ages of sixteen and twenty-one years old were

unemployed (Pragan, 1965). Massive federal legislation and support for education was seen as a means of remedying these problems while insuring that we kept pace with the educational advancements being displayed by an imposing competitor, the Soviet Union.

Just as vocational education profitted by riding the wave of the progressive movement for all segments of education in the late nineteenth century, so too it suffered as a result of public criticism of the schools during the 1940s and 1950s. Economic conditions and the changing needs of the American postwar society during the late 1950s and early 1960s influenced a movement to evaluate all existing national programs for vocational education.

Complaints were prevalent that vocational education was not preparing enough students for life in American society. In 1953-1954, only 39.5 percent of all male students in Massachusetts were involved in vocational programs and only seven percent of the females were involved (Conant, 1959). Additional criticism centered on the complaints that the course work was far from satisfactory and that the Russian students (as evidenced by the launching of Sputnik, 1957) were receiving a technically more advanced education than our students. Congress responded to the public outcry by passing the National Defense Education Act (N.D.E.A.) of 1958 with funds specifically earmarked for training skilled technicians in fields geared to national defense.

Confronting the mounting need for technological advances and demands for remedying social/civil rights problems, President John F. Kennedy, in 1961, appointed a Panel of Consultants on Vocational Education to review, modernize, and redirect vocational education. As a result of

this panel's work reflected in its report, "Education for a Changing World," Congress passed the Vocational Education Act of 1963 which authorized federal grants to assist states in maintaining, extending, and improving existing programs, as well as developing new programs. This Act also provided for part-time employment of youth who needed financial assistance in order to continue their full-time vocational training. This legislation was unique in that it focused on services to people rather than merely providing training support for a few occupational areas.

In addition to programmatic changes, the 1963 Vocational Education Act initiated several innovations such as the use of national, state, and local advisory groups; provided funds for research and experimental programs; and mandated that each state use three percent of their federal allotments for services such as teacher education and vocational guidance. The Vocational Education Act of 1963 was designed to serve as a stopgap measure in serving 19.5 million youth who were not expected to seek a college degree, and who planned to enter the job market between 1960 and 1970. In addition, it was designed to ease the adjustment of 13 million employed individuals who were expected to be changing jobs or need retraining due to new technological advancements (U. S. Department of Labor, 1964).

During the mid- and late-1960s, the direction of federal legislation was pointed towards prevocational training, helping people improve their self-images, promoting programs which provided job search and interview skills training, and helping individuals to deal effectively with co-workers and work supervisors. Many of the lessons learned in the

various manpower programs of the late 1960s were built into the Vocational Education Amendments of 1968. Chief among the changes was the stipulation that effective vocational education required fundamental educational change including prevocational activities beginning at the elementary school level and vocational guidance through "career education" activities. Amendments to the Vocational Education Act which would be passed in 1968, 1972, and 1976 provided greater cohesion within the vocational education field by clarifying earlier laws, including The Elementary and Secondary Education Act of 1965, The Higher Education Act of 1965, and The General Education Provisions Act. Grants were authorized for projects designed to improve vocational counseling and placement, to enhance the professional development of vocational educators, to identify sex inequities and discrimination towards the handicapped or disadvantaged, and to strengthen national and state advisory groups.

### Teacher Education

Historically, the training of teachers of vocational education was hampered by conflict over whether teachers of vocational subjects needed training at all, or merely skill in their respective fields; whether these prospective teachers needed additional skill training in their chosen fields; and whether they needed a liberal education in general subject matter or pedagogical training in teaching methodology. Although normal schools were well-established in France during the seventeenth century, such specialized institutions for the education of teachers did not thrive in America until the eighteenth century. At that time, the



efforts in America to provide public education to all classes of people created an increase in the need for trained teachers.

During the 1820s, a few private academies began offering a form of teacher training; and in 1834, the New York Regents were authorized to provide funding for teacher training in selected academies. Most of these early efforts, however, were poorly supported and the enrollments were small. Prior to the Civil War, most elementary school teachers performed their work without any professional preparation.

The first normal school, the brainchild of Horace Mann, was inaugurated in Lexington, Massachusetts, in 1839 for teacher training at both the elementary and the secondary levels. The institution which was provided included training in pedagogical methods as well as a liberal education in subject matter. By 1900, the majority of urban elementary school teachers working in cities had been exposed to a short period of normal school instruction, although such was not the case in rural communities. In time, it was acknowledged that teachers of vocational subjects were already occupationally competent and did not need extensive training in what to teach, but rather how to teach.

Organizational plans for the training of teachers having trade experience in evening schools were being formulated in 1912 and 1913 by several separate schools and organizations (Boston Young Men's Christian Association, Boston Evening Industrial School, the Buffalo State Normal School, etc.). The accepted teacher training plan which emerged from these efforts was designed to fit craftsmen for the role of teaching through training which was conducted in evening schools. The plan attempted to encourage men engaged in various industries to prepare



themselves for the teaching profession.

As the demand for teachers of manual subjects grew, normal schools and teachers' colleges grew in prominence by developing special departments geared to the preparation of students for employment in the public schools. Training consisted of instruction in the proper use of tools, operations relative to a particular trade, and methods and processes involving different activities relating to wood and metal objects. The perplexing problem encountered by the early planners of programs for vocational teachers is one that is still facing us today. The dilemma is best stated in a report issued in 1912.

The Committee on Industrial Education of the American Federation of Labor reported in 1912 that: "Successful teachers must be of practical experience, with more than a textbook acquaintance with the industrial work, . . . and in addition should have an understanding of the general principles of teaching, that they be able to impart their knowledge to others. The combination is not a common one. . . . As a general rule, the school has to choose between the skilled worker not trained as a teacher and the professionally trained teacher, who knows the theory of the trade, but has little, if any, practical experience" (Senate Document 936, 1912).

With the passage of the Smith-Hughes Act, the importance of teacher training had been clearly indicated through mandatory requirements that states use a specific portion of their federal allotment for teacher training. From this federal inducement and the growing need of vocational teachers arose a network of specialty colleges (New York State College for Teachers at Oswego, New York; Fitchburg State College,

Massachusetts; Buffalo State Normal School, New York; etc.) which organized distinct programs specifically geared to the vocational teacher and those who were already masters of their trades. The pattern of curriculum design being instituted by these, and other institutions which would follow, established a planned sequence of residence courses of from one to four years.

However, by 1920, the residence course concept was to yield somewhat to increased pressure for evening classes at local centers. Since the institutions were frequently located in places which were far-removed from industrial areas and the skilled prospective teachers being sought, more localized training centers were needed. Extension centers were established and itinerant teacher trainers were employed and assigned to the institution. The itinerant teacher would travel throughout the region organizing groups of prospective teachers and offering courses at various local centers.

By the 1940s, the term "normal school" was no longer being used as the state normal schools had changed their names to "teachers colleges" or "colleges of education." The change from normal school to college status was legitimized by the fact that by 1930 only high school graduates were accepted in the colleges and four years of academic college preparation was expected of prospective teachers. Within twenty years, the state teachers colleges too would undergo transition, changing to become multipurpose state colleges or universities and dropping the word "teachers" from their titles in order to reflect the offering of degrees in the liberal arts and other areas besides education.

A report presented in the Industrial Teacher Education Directory of 1966 indicated that 70 percent of the state departments of vocational education had delegated the responsibility for trade and industrial teacher education to one or more colleges or universities within their respective states. In 25 percent of these cases, state department personnel also participated in the teacher education program. Usually, the collegiate teacher training program was restricted to courses in professional education and in general education (Hammond, 1974).

In time, programs were stabilized at state colleges and universities in conjunction with previous normal school teacher training programs. Distinct courses of study were developed to provide prospective vocational teachers with a general education foundation in the liberal arts, while emphasizing teaching methods and materials geared to the vocational areas.

Vocational teacher preparation programs of this type have been providing the bulk of prepared teachers for the public schools. Nonetheless, with higher wages being paid to skilled workers outside the school domain, a scarcity of teachers in specific skill areas has forced school departments to make provisional teaching appointments to individuals who do not possess a degree. With the cooperation of state certification agencies, these nondegreed teachers are required to enroll in a handful of courses in order to retain their teaching positions. The proper preparation and education of this unique group of teachers is a problem which must be addressed more fully.

### Current Status

Currently, the Carl D. Perkins Vocational Education Act (Public Law 98-524) is providing the dominant federal direction relative to vocational education for the four-year period beginning July 1, 1985 and extending to July 1, 1988. This new federal vocational education act continues and extends earlier efforts of providing a focus of services on certain target populations (females, handicapped, the disadvantaged), places emphasis on adult training and retraining, and stresses the commitment to more actively link vocational education with private sector businesses and public sector agencies. Each state is required to develop a three-year state plan to cover fiscal years 1986-1988. Each plan is to be formulated with the cooperation of a new State Council on Vocational Education, public hearings must be held, and the state legislature and the state job training coordinating council must review each plan.

Thus vocational education has evolved from a period of sporadic, uncoordinated teaching and training to a time of federal endorsement and specific funding and support. Although vocational education has succeeded in gaining external recognition from the populace as a whole as well as from state and federal agencies, the internal struggle for acceptance within the hierarchy of the educational domain has not been resolved. Indeed, a far more insidious struggle for dominance within education itself has been waged with traditionalists (those advocating a liberal arts education) and is still a source of conflict today. This controversy must be resolved if vocational education is to achieve its curriculum and instructional goals in a manner which will be most beneficial for its students.

## Conflict Between Liberal Education and Vocational Education

### Background to the Conflict

As attitudes towards free public education grew into general acceptance (after 1820), more and more proponents of education became concerned with not only the issue of public education, but also the specific subject matter to be taught. Many references to the need for the inclusion of new subject matter were followed by a variety of movements designed to make learning more practical or more attuned to the times.

The School of Manual Labor Movement during the 1830s and 1840s, a variety of special schools during the Civil War era, the emergence of lyceums and mechanics institutes, and the growth of private trade schools continued a trend towards developing courses and programs geared to vocational education. The difficulty experienced by vocational education in truly becoming firmly established and accepted was not unusual if examined in light of what seemed to be the prevailing attitude of what should transpire within the schools. "School is a place of books and abstract knowledge; anything else is tyranny" (Mays, 1946).

As vocational education gradually grew in prominence during the beginning of the twentieth century, its mission was clearly defined (primarily through the Smith-Hughes Act) to prepare people for the world of work. The controlling purpose of such education was seen as training students to fit into some type of gainful employment. Unfortunately, for some, this concept implied a separation of vocational education from the other areas of education--a distinction which would fracture unity within educational thinking and planning for years to come. The Smith-Hughes



Act was never intended to create a rift between general and vocational education. In fact, the specifics of the bill provided that half of the secondary level school day was to be devoted to subjects other than vocational education, in effect suggesting the blending of the general and vocational areas through subject-time allotments. Nonetheless, and although totally unintentional, by legitimizing vocational education in public schools, the Smith-Hughes Act also served to polarize and widen a dichotomy of thinking relative to the components of education which students should receive.

By powering its way into prominence through the leverage provided by the federal legislation, vocational education advocates worked to establish vocational education as a legitimate, equal partner with the traditional, strong-rooted general or liberal education. The ensuing struggle between these two forces involving philosophy, course work, and even physical school structure would be reflected throughout educational thought for many years to come as a result of this "shotgun marriage."

Although numerous prominent writers and speakers of that time professed the belief that vocational education and general education could and should coexist and should not be considered as separate entities, an undercurrent of disenchantment by each side of the educational merger would continue to haunt the vocational education movement and the progress of education in the future. "Liberal education and vocational training should be conceived of neither as hostile rivals nor as mutually exclusive enterprises but, on the contrary, as two essential and complementary aspects of the total preparation of the individual for his total life. . . . It is an everlasting pity that so sharp a dichotomy has



established itself in our minds between liberal education and vocational training, with the false implication that the former is somehow higher, though useless, and the latter, useful but somehow crass and demeaning" (Greene, 1955).

Despite attempts to establish a common ground for unity between the vocationalists and the generalists, other critics of the proposed merger surfaced and attacked vocational education as the antithesis to liberal education, as opposite extremes of good and bad on an educational continuum. The verbal and written battles between the two differing groups became heated and intense when vocational educators referred to the general educators as "intellectual snobs." The general educators responded by demeaning the efforts of the vocationalists as being non-intellectual and being reflective of a "vocational mentality" (Warmbrod, 1974). An unfortunate and lasting consequence of this prevailing latter view, and one that vocational educators are still facing today, is that vocational education has been looked upon as appropriate only for the noncollege bound student.

#### Roots of Traditionalists and Vocationalists Positions

As the educational debate continued through the years, general or liberal education was defended by its advocates as a program designed to broaden one's mind, to prepare a person to assume a leadership position, and to continue to the overall cultural growth and standing of the nation. Vocational education was spurned as being narrowing in its capacity, thus limiting mental growth by providing training for habitual, repetitive situations resulting in the training of people to be followers rather

than leaders.

Vocationalists, on the other hand, argued that the liberal arts were impractical, geared to providing polish or finishing touches for an elite class of people, and as totally unresponsive to the needs of the business and industrial communities.

The basis for the arguments, as put forth by the proponents of a general or liberal education, date back to a host of thinkers labeled as Aristotelian, Perrenialists, and Classicial Realists. Defenders of these schools of thought would argue vehemently against any tendency of institutions to promote vocationalism or technology, fearing the gradual erosion and eventual elimination of classical and intellectual studies. The traditionalists traced their strength back to the Greek idea of liberal education and the principle that it is activity of the mind to pursue knowledge. By achieving knowledge, the mind was satisfied and thereby attained its proper end-result. The quest for knowledge, then, was the actual pursuit of that which was best for the mind, and therefore was a basic factor in leading a good life. This Greek concept of a liberal education was adopted by the liberalists with the goal of developing one's own mind in order that one can attain the greatest good.

The implication of this for education is the acceptance that there are certain truths or values which are fixed through time, and not temporary or changing. Thus the need to study the classical subjects. In addition, since knowledge is viewed as a distinctive human virtue and one should be striving to fulfill one's mind, there would be no room for vocational or utilitarian concerns in the studies.

The vocationalists' cause was aided, however, unintentionally, by the efforts of Galileo, Kepler, and Copernicus who broke away from the classical education of their day and opened the door to an education geared towards science, technology, industrialization, and pragmatism. Also adding to the historical strength of the vocationalists' cause were efforts and demands by various groups in support of egalitarianism, a cause still reflected today in current legislative efforts at promoting equality of opportunity.

#### Tenets of the Respective Views

As the verbal and written battle between the two opposing forces continued, the dialogue moved away from being vitriolic and name-calling to present a clearer definition of the tenets of their respective views. The vocationalists defended their position by claiming to offer a more democratic education which met the actual needs (jobs and skills training) of the students. They further argued that not everyone wanted or needed an intellectual education. If one accepted this premise, then one could see that the primary goal of the advocates of the Liberal Arts (intellectually in education) would be inappropriate because of the pressures of the job market. Thus one would be left with a primary goal of education to be that of job procurement and financial independence. This then would be the major reason for attending both high school and college.

The traditionalists (those proposing the retention of the general or classically liberal education) maintain that the traditional policies of liberal education are as valid for today's complex world as they were

for the nonindustrial aristocracy of the past. They suggest that what was once the best education for the few is now the best education for the many (Adler, 1958). The blue-blood subjects of the liberal arts of the past--philosophy, literature, mathematics, history, and possibly the fine arts--were seen as the basis for development of one's intellect, the refinement of taste, and the development of one's personality and character. Preparation for citizenship and worthy use of leisure time were expected to be indirect offshoots of these studies. Any attempt at integrating liberal and vocational education would be fought vehemently by the traditionalists.

The traditionalists further contend that there are many valid methods of inquiry (not merely experience and the scientific method) which are indigenous to its respective discipline. They propose that philosophy is knowledge, possessing the same validity of knowledge which science is granted. Moreover, the traditionalists further argue that philosophical knowledge is superior to empirical science (being concerned with the ultimate nature of things rather than the phenomenal or technological) and thus cannot be evaluated by the empirical sciences.

Education to the traditionalist is weakened if based simply upon reorganization of experiences, but instead deals with the acquisition of actual understanding about actual truths and values which characterize man as Homo Sapiens. On this basis, the traditionalists oppose any attempt to integrate liberal education and vocational education, or to educate through occupational activity as part of the curriculum. The modernists, on the other hand, contend that an integration of the two is necessary in order for the student to be familiar with occupational



activity through the study of the liberal arts.

As to the training of prospective teachers, the traditionalists push for a heavier emphasis upon the liberal arts, attempting to promote the arts of teaching and learning. Conversely, the modernist would propose specialization in a particular field of scientific research in order to become cognizant of the empirical method of learning and teaching, the process to be conducted through the study of methodology in schools of education.

Although traditionalists would probably deny it, education at the collegiate level had been preparing people for jobs (careers) even prior to the Jacksonian era. However, the students at that time were special, representatives of only the upper socioeconomic and aristocratic heritage reflective of their forebearers. They were trained for careers in the classical fields such as theology or for government work or positions associated with class and privilege. The education which was provided was a liberal education designed for an elitist class with work skills to be learned by others in other ways. However, with the rise of the agrarian class and the advent of land grant colleges, demand grew for training of American men in fields related to the growing industrial needs, espousing the Jacksonian ideal that all careers were equal.

Traditionalists, who considered themselves as the saviours of the liberal arts concept of educating for careers, rallied in their efforts to stifle the growing movement which served to detract from the study of man as the central focus of the liberal studies. Efforts by the traditionalists were successful in delaying the inclusion of job-oriented vocational education in the schools until after the Civil War with its

corresponding postwar growth and the pressing demands of American industry.

### Reaction to European Influence

In the meantime, the traditionalist system, steeped in training emulated from the German educational system, pervaded our nation. By 1905, Germany was recognized as the rising economic and political power due to its impressive industrial success. The strength of the German enterprise evolved from its educational system of mandatory vocational and technical schooling for all students who were considered unworthy of college preparation. Since jobs were ranked as a social hierarchy according to salary and prestige, European schools sorted children before their teenage years into specific job training categories, thus disqualifying them from others and in essence determining one's lifetime social and economic status.

Recognizing the successes of the German educational program and responding to the appeal for training for jobs, the National Education Association's Committee of Ten (1893 and 1918) issued two major national reports. In these reports, it was suggested that the American educational system should change from that of an elite institution to become an agent for mass training for life. The committee argued that the college preparatory courses were not the best for everyone, and the best preparation for life was also the best preparation for college. The Committee of Ten sought to minimize the high school's primary goal of college preparation of students by asserting that the high school's "main function is to prepare for the duties of life" (Sizer, 1964). The



phrase "duties of life" would be one that would be interpreted, misinterpreted, and debated for years to come.

Needless to say, the traditionalists looked disparagingly upon this new concept and saw it as one which would deprive Americans of one of their basic principles of life--freedom of choice. However, advocates of vocational training did not view this adoption of the principle of German education as one which would cause an abandonment of the American principles of democracy and free education. Indeed, sentiment from this group would indicate that this principle was in fact the epitome of democracy since the liberal subjects were not designed to educate a student for a variety of career options, but merely to provide special training for the specific elite professions. Using this perspective, one would be forced to view the liberal arts as vocational subjects--a view totally abhorrent to the traditionalists. Further, by suggesting that all possible high school curricula were in essence vocationally oriented and that any high school training was directly connected with future work roles, vocational theorists were shaping vocational education to fit democratic theory. In fact, their arguments were slanted to sound more democratic than a traditionalist's education which could be scorned as an education for the elite as provided by the liberal arts. "It would be more democratic to train everyone for his or her profession--in that way every child would derive equal benefit from the public schools" (Russell, 1906).

#### Preparation for Life--Divergent Views

Thus, the emergence of a new interpretation of democratic

education--"preparation for life"--was to be preparation for work. The issuance of the Douglas Commission Report in 1906 pointed to the fact that in Massachusetts alone there were 25,000 unskilled youth, massive school dropout rates, and a total disinterest in school studies, served to fan the fire of the new educational philosophy (Report of the Commission on Industrial and Technical Education, 1906). The Douglas Commission Report was tinder in setting off interest in vocational education which would spread from Massachusetts nationwide. The popularity of the vocational education movement at this time was due in large measure to its providing an alternative to the despicable conditions as portrayed in the Douglas Report and by appearing to provide the means to directly implement the demand of the Committee of Ten to prepare students for the duties of life.

Three distinct interpretations struggled with what was perceived to be a federal mandate to prepare students for life. The Committee of Ten suggested that preparation for life should focus around teaching methods of thinking and the imparting of information which students might use in their future lives as social leaders. The directors of the vocational education movement interpreted the mandate of preparing for life as synonymous with preparing for work. John Dewey viewed preparation for life as teaching children the skills which enable them to fully participate in all aspects of social life at whichever social hierarchy of which each would become a member. From 1890 to 1920, the vocationalists' interpretation of preparation for life was to dominate thinking in the schools, perhaps highlighted by President Theodore Roosevelt's appeal for more vocational education in the schools and less literacy

training.

A fourth interpretation, that of the traditionalists, which offered that training in the liberal arts was in fact the best training for preparation for life, was essentially subdued at this time. The traditionalists would have to wait until the 1930s for the popularity of the vocational education movement to wane in order to resurrect the classical, liberal arts tradition of education. By 1920, vocational education was firmly established as a legitimate function of the schools, if not an accepted one by traditionalists.

#### John Dewey's Concerns

By the time John Dewey entered the vocational education/general education fray, he was well-established as the leader of the Modernist movement, having already positioned himself as a severe critic of regimented, traditional education. He was highly critical of the "mindless," "meaningless," education prevalent in the schools patterned after the German educational design. He accused the educational process of being totally devoid of reasoning and thinking skills and unrelated to the real world. "There is grave danger that holding up as a model the educational methods by which Germany has made its policy effective will serve as a cloak, conscious or unconscious, for measures calculated to promote the interests of the employing class" (Dewey, 1914). His criticism was indeed timely for the vocationalists, serving to rally the populace by striking a sensitive chord within a society which was ready for a change in the schools.

Ironically, Dewey did not reserve his criticism only for the traditionalists, as he expressed extreme suspicion of the possible long-range implications of the vocationalist movement. Dewey was more fearful of the negative results which would be realized if a dualistic educational system was allowed to develop out of the philosophical conflict between the vocationalists and the traditionalists than he was of the dominance of one faction over the other.

One component of the modernist's viewpoint, espoused by Dewey, suggested that modern man must be up-to-date rather than dependent upon dogmas which no longer pertained to the contemporary world. Experiences which should be constantly appraised and reevaluated through the scientific method should form the basis of the philosophical perception of "truth" or "reality" or "existence," and should be seen only as they reflect the bridge from past to present experiences. Learning and knowing thus would be viewed as a process which adds to one's experience through observation, analysis, and reflective reasoning rather than serving as a faculty for understanding immutable truths.

Yet Dewey wasted little time in lashing out at the proposals of President Woodrow Wilson's Commission on National Aid to Vocational Education which recommended that the schools concentrate on, "training for specific trades, divorced from liberal education, leading directly to definite occupation." Dewey countered with the argument that the objectives of vocational education should be to promote equality of opportunity, teaching the real meaning of work, inculcating a sense of culture related to today's world, developing a spirit of social cooperation, and helping students grow in industrial intelligence. He was

totally opposed to any type of education which would enhance "restricted specialism" or educating individuals for one predetermined line of activity (Dewey, 1966).

John Dewey challenged the earlier proposals of David Snedden, United States Commissioner of Education, and the suggestions of the National Association of Manufacturers. He viewed their narrowly defined, utilitarian concept of vocational education as too limiting in perspective. He suggested that vocational education should not be regarded as an end in itself, but rather as a medium of experience towards which other subjects could be related in an integrated way. Dewey lashed out at an educational framework where employers would dictate the kind of education that would provide opportunity. He feared that these employer prescriptions would be destined to provide an education which would benefit the business community rather than develop the broader goal of developing the individual first and letting the employer adjust his job to the needs and abilities of the worker. He was very concerned that the country's leading educators were seemingly preoccupied with industrial values than educational values, and suggested that concepts of industrial and cultural education should be merged to produce a person capable of self-direction as well as productivity at work.

On the other hand, Dewey sided with the vocationalists in expressing the belief that manual, social, and industrial activities were desperately needed to revitalize the traditional, general education in the schools. He furthered the vocationalist cause by indicating that the schools needed to change in order to keep learning in touch with the



realities of contemporary life, espousing the principle of "learning by doing" in order to make learning practical. Yet his statements were not intended to promote a straight vocational education design in deference to the traditional design. Rather, his hope was for a blending of the two. He expressed extreme fear that the heavy movement for vocational education would swing the pendulum of thought and action too far in one direction, and, in effect, polarize the schools. If vocational education gained an overpowering lock on the educational process, Dewey cautioned that the public schools would serve to turn out more efficient laborers within the existing business and economic establishment without equipping individuals with the resources to control their own future economic careers (Boydston, 1980).

Dewey further suggested that a system, designed to teach through drill and repetition in order to secure skill in job performance for immediate results, would preclude understanding the social significance of the scientific principles associated with the task. He warned that a strong emphasis on vocationalism would serve to prepare more skilled workers for the existing economic system rather than developing each individual's reasoning and potential.

John Dewey's aim in attacking each side of this debate was to prod the combatants to incorporate a new kind of industrial education, blending the Greek distinction between "liberal" education for the leisured class (associated with art and liberated thought) and "practical" education for the masses (useful and necessary for one's livelihood). Dewey strongly professed that the two distinctions needed to be blended into a useful, practical activity-based education, infused with intellectual

and aesthetic content (Worthington, 1980). Dewey further contended that man had a number of calling in areas where he could become proficient and in which he should be intelligently knowledgeable. The value of meaning of any occupation and that which keeps it from becoming dull or routine, Dewey would argue, is the degree to which it is isolated or integrated with other interests. "A person must have experience; he must live if his artistry is to be more than technical accomplishment. No one is just an artist and nothing else, and insofar as one approximates that condition, he is so much the less developed human being; he is a kind of monstrosity" (Boydston, 1980).

Above all else in this controversy, Dewey was troubled by his concern for the possible creation of a harmful, dualistic system of education. Dewey suggested that educational reformers seek an intelligent mixture of the vocational and the cultural in the curriculum. He argued strongly against the creation of educational tracks which would in time separate culture from skill and one student from the other. The challenge, as he saw it, was to create a balanced curriculum to the total exclusion of any form of curriculum that would promote two kinds of education and two kinds of citizenry. Dewey took a firm stand on this issue in 1916 when he wrote, ". . . at the present juncture, there is a movement on behalf of something called vocational training which, if carried into effect, would harden these ideas into a form adapted to the existing industrial regime. This movement would continue the traditional cultural or liberal education for the few economically able to enjoy it, and would give to the masses a narrow technical trade education for specialized calling, carried on under the control of others"

(Dewey, 1966).

### Traditionalist Renaissance and General Education

It was not until the 1930s, after the reforms of Dewey and the modernists had gained a solid foothold in the schools, that the traditionalists began to swing the pendulum of education in the other direction. The renaissance of the liberal studies was born out of the ferment that had been sweeping over the public schools and the liberal arts colleges during the early decade of the twentieth century. The rush for technological specialization at universities and other institutions of higher learning had caused students to avoid liberal studies, thus relegating the liberal arts to a new low level of prestige.

Attempts at restoring the liberal arts to a lofty position in the educational hierarchy was best exemplified by the introduction of a number of new course offerings and programs geared to specialization in the liberal arts. One such program, the "New Program" at St. John's College (1937), developed the heretofore seldom mentioned commitment to tradition, the search for truth and knowledge as their own ends. The design of the "New Program" was planned to recover the liberal tradition of European and early American education through a study of the "Great Books."

With the advent of World War II and its subsequent manpower demands, and the opening of many new war-related jobs in business and industry, liberal studies once again reigned supreme, as higher education through the 1930s and 1940s, and continued to be sought by a relative few. The social impact of a college degree as a measure of one's worth in the

world of work had not become of paramount importance.

During this time, the major educational issue bringing attention to the liberal arts was the concept of "general education." Although general education had established a place in the secondary education curriculum much earlier, general education gained official recognition at the college level in the 38th Yearbook (1939), Part II, of the National Society for the Study of Education in a work entitled, "General Education in the American College." However, it gained full stature and acknowledgement in an issue still under analysis today, the Harvard Report of 1945, entitled "General Education in a Free Society." The Harvard Report was instrumental in making it respectable to have general education courses at colleges and universities by proposing an emphasis upon the three traditional areas of knowledge (the humanities, natural sciences, and social sciences) as a bulwark around which a general education curriculum should be built. The focus of the general education component of the report was primarily addressed at establishing a foundation for the development of general education curriculum which would benefit the more academically inclined individual (G. Ramanathan, 1968).

### Vocationalism Rebounds

The prominence of the liberal arts subjects during this era was fleeting at best. The enactment of the G.I. Bill of Rights was to become the benchmark of another change in educational emphasis. From the 1950s to the 1960s, the inexpensive availability of a college degree (liberal arts) to middle- and lower-class Americans resulted in



a massive influx of students. Parents, who had suffered through harsh economic times and for whom a college education was never a consideration, saw opportunity for their offspring for prestigious careers which had not been possible for them. A wholesale inundation of colleges and universities across the country soon followed, as the popular notion developed that a college degree provided the means of distinguishing oneself from the rank of file. The Korean Conflict, in turn, refilled the colleges and universities with people who, without veterans' benefits, never would have considered attending college.

With the eventual passage of the National Defense Student Loan Program, anyone with the inclination, who had not found the means to an inexpensive college degree through veterans' benefits, could turn to another avenue of federal assistance. In addition, of significant impact was the establishment and spread of community colleges during the 1960s. The community colleges provided a new dimension to education by offering an easily accessible, low-cost education geared to terminal vocational-oriented studies or liberal studies for transfer to the four-year institutions. Quite often, too, an open-door admission policy provided an added inducement to older or returning students. A study by Pincus pointed out the extensive impact which two-year vocational programs would create. During 1969-1970, 6.4 bachelor degrees were awarded for each two-year vocational degree (Pincus, 1980).

As a college education became more available to more and different classes of people, the domination of the liberal arts within the institutions waned. Increasing numbers of people began to view college as a means of measuring success and a means of opening doors to vocational



enterprises. With a seemingly never-ending list of requests for skills training in a myriad of trades and occupational areas, colleges (especially community colleges) and universities adapted their programs to attract students by offering career-occupational programs. As late as 1965, only 13 percent of the nation's full-time two-year college students were enrolled in career-occupational programs. However, since 1965, a number of social, economic, and cultural changes caused the percentage to spiral upward to a point that by 1978, 52 percent were enrolled in technical or occupational programs of one type or another (Schmeltekopf, 1981).

A survey of college seniors in 1973 by the Approach 13-30 Corporation of Knoxville, Tennessee, underscored the trend towards shifting from a liberal education to practicality and immediate results. The survey noted that 31.7 percent of the 1973 seniors indicated that they planned to "begin a career, start making it immediately after graduation," compared to 21 percent of the 1972 seniors. At the same time, the percentage who indicated they would "work for political or social change" dropped from 2 percent in 1972 to .07 percent in 1973 (Scully, 1974). The study further indicated that the number of students enrolled in technical or professional tracks rather than liberal studies had shown dramatic changes nationwide. That trend was accommodated in the liberal arts departments of many colleges and universities which developed "applied courses" in an effort to convince students that these revised liberal arts courses would lead to jobs. This move was regarded as high treason by the most devout of the liberal arts advocates.

During the 1970s, enrollments everywhere were shifting from the liberal arts to courses bearing the names of occupations. The shift created a financial pinch and increased recruitment competition within higher education. There had always been students who came to college with specific career goals in mind, but in 1973, after a year or so of political apathy, career commitment burst onto the scene as the new look on campus. In the fall of 1973, the proportion of freshmen who thought that it was important to be well-off financially rose to 55 percent from 41 percent the preceding year (Bird, 1975). As a result, courses in nursing, agriculture, health science, and the like were oversubscribed. At the Ivy League universities, followed almost instantly by most other institutions, undergraduates avoided declaring majors in liberal arts and sought programs in law, medicine, and other professions. By the end of 1973, writers were referring to a "new vocationalism" as a welcomed return to the ethic of service and achievement.

### Concern for Quality

With the conclusion of the Vietnam conflict and the leveling off of student unrest and demands for changes in courses and programs, concern was raised about the quality of education at colleges and universities. With the plethora of new courses swelling college catalogs, a nagging question surfaced as to the rigor of the general education requirements which students were receiving. In 1977, the Carnegie Foundation for the Advancement of Teaching issued a report in which general education was termed a "disaster area" in that the conglomerations of course offerings listed under general education "represented accretions of history more

than a thoughtful concern for specialized current needs" (Carnegie Foundation, 1977).

The Carnegie Foundation study further indicated that it had found a universal pattern of course offerings in general education which were designed primarily to accomplish the purpose of meeting distribution requirements. Thus, students in vocational education programs were given a limited sampling of the social sciences, the sciences, and the humanities. Little was found in the way of integrative courses which would serve to tie together the major streams of thought. Few, if any, courses were deliberately designed for vocational and nonmajor students. Because of the stress on meeting the breadth of distribution in major requirements, college students enrolled in career and vocational degree programs. They found little room left for courses or credit hours in general education beyond the bare minimum required either by state law or regulation or for accreditation purposes.

A study by Greenfield found that 25 to 30 percent of the total credit hours in vocational degree programs were devoted to English Composition, an elective course or two in the social sciences, a mathematics course, and a science course. On rare occasions, an elective humanities course might become part of the package. Few, if any, courses were designed specifically for the nontransfer or the nonmajor students (Greenfield, 1982). The overwhelming weakness inherent in the sporadic, "shotgun" approaches to providing a general education background to vocationally inclined college students is even more critical if one considers the number of students who take the courses on a part-time, one or two courses at a time sequence.

## Historical Implications

Throughout the history of American education, the relationship between education and work posed a number of difficult philosophical and functional problems for educators, and it still does today. At the turn of the century, the problem of educating our youth was viewed through the perspective of both the national economy and social needs. Equality of opportunity was sought as a means to upward mobility as measured in terms of employment opportunities. Employers then played a predominant role in determining what would be learned and how learning would be accomplished. Historically, the employers were strong supporters of vocational training, whereas today they are more concerned with insuring that the schools provide functional literacy training. Recently, a number of joint efforts have been made (The Boston Compact) to revive cooperation ventures between colleges and business.

Continuing into the 1980s, higher education has turned increasingly towards vocationalism due to budget constraints, new clientele demands, and pressure from the business world. "Many of the new generation of students are going to college not because they want to be exposed to great literature or get a feeling of the grand sweep of history or better understand the role of mankind. They want to learn what they have to learn to be accountants, and marketing managers, travel agents and laboratory technicians, and air-conditioning mechanics" (Maeroff, 1980).

Yet, the traditional arguments claiming that a liberal education is superior have not been abandoned by all. They have, however, been rendered more flexible by the continued resurgence of vocational education

movements over the past few hundred years. Indeed, contemporary advocates of vocational and adult education programs view the liberal arts as an integral component of their total program designs.

Far too long, many of our institutions have suggested to students that education and work are two separate and distinct entities. The myth has persisted that a college education need not lead directly to a job or specific skills training. In fact, it was often considered demeaning to equate direct employment with a liberal arts degree, until proper purging had taken place through graduate study. "It's all right . . . we said to be a doctor, but less right to be a nurse. It's all right to be an engineer, but a computer programmer is less worthy. To prepare to teach at college is just fine, but to teach at an elementary school is less acceptable. To read what is written in the past is great, but to write about the present is not quite 'legitimate' at many arts and sciences institutions" (Boyer, 1980).

Vocational education needs to be accepted by the liberal arts in order that programs can be strengthened to a point of general acknowledgement of improved excellence. However, the area of emphasis that is most crucial to the bolstering of vocational education programs is to insure the thorough preparation of instructors or teachers of vocational subjects. The problem of effective teacher preparation is a subject which is easily obscured by the smoke screen created by academic battles with traditionalists, indifference of the teachers in the field itself, and, most crucially, by the ineffectiveness of certification procedures to insure that anything more than minimal standards have been met.



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## C H A P T E R    I I I

### DESIGN OF THE STUDY

#### Introduction

The design of this study was one of policy analysis and action research designed to provide a practical mechanism for action in dealing with the establishment of a baccalaureate program which would provide equality of educational background and training for vocational teachers in trade and industrial education.

Initially, an historical study was conducted to provide the contextual background of the vocational education movement as it evolved in the United States, and as it blended or conflicted with social, economic, and philosophical issues and certification policies which influenced the vocational education movement. The historical study was used as a modulating influence upon an emerging model program design. It serves to crystallize problems and issues which have beset vocational education movements and programs in the past, in so doing, creates a framework for accommodating these issues within the new design. The essence of this content has been provided in Chapter II.

#### Procedures

First, an informal survey and needs analysis questionnaire was administered to provisionally-approved vocational teachers who were enrolled in courses at the Occupational Education Center at the University of Massachusetts at Boston (Appendix E). The group of teachers polled were those who were taking courses in order to attain full

approval as vocational teachers. The purpose of this survey was to determine the existing need for a degree program and the inclination of approved vocational teachers to pursue a program of study leading to a degree, if one were made available to them.

Second, a study of catalogs describing current programs at nearly 50 major universities and colleges selected at random was conducted as a means of determining the extent of vocational teacher training currently in operation, the levels of degrees being offered, and the programmatic models being followed. An attempt was made to select state universities or colleges outside of Massachusetts in order to provide a national sampling of state-supported degree programs in vocational education at public institutions of higher education. Current catalog and program information relative to vocational education programs was requested and received from 48 of the 55 colleges and universities polled nationwide (Appendix F).

In addition, on-site visits were made to the campuses of Rutgers University and Indiana University of Pennsylvania in order to examine the operation of structured and nonstructured degree program models. These two institutions were selected as representative models for visitations because their student populations were similar to the University of Massachusetts at Boston, they were in relative close proximity for travel purposes, and their programs typified the two patterns of program structures which were in place at the universities surveyed. Discussions and consultation took place with faculty, students, and administrators at those institutions as well as with public school teachers and administrators affiliated with the university programs in order to provide a closer scrutiny of the parameters of their programs.



Third, favorable indications from the results of the teacher survey and the catalog survey led to consultation and discussions with Boston area administrators of vocational education schools, State Department of Education officials, university administrators, and representatives of various components of the University of Massachusetts at Boston community (academic support, program directors, assistant deans, admissions, etc.) which would be interested in the development of a model program.

Fourth, from the results of the initial teacher survey, a list of prospective students was compiled. This list of 48 students consisted of all who had indicated a desire to participate in a degree program. These prospective students, along with others (through notification made to area vocational schools), were invited to attend an exploratory assessment session with University of Massachusetts at Boston officials and other interested faculty and members of the academic community. Through dialogue, both in a general open session and in small group interaction meetings, more definitive determinations were made as to needs of these students and the university's capabilities and determination to satisfy the needs. An additional assessment questionnaire (follow-up survey) was administered to the participants at the exploratory meeting in order to ascertain more specific details of program needs and program design features which would be beneficial or a hindrance for the target group (Appendix G).

The limitations of the study were influenced by the characteristics of the group surveyed (vocational teachers who lack degrees and who reside within the Metropolitan Boston area) as well as the availability and applicability of model programs at the 48 universities which responded to the poll.

In addition, the immediate findings are general to the Boston area and to the University of Massachusetts at Boston, and are limited to those who participated in the surveys.

From the implications derived from the historical study, the literature review, the data gleaned from surveys and interviews, and the analysis of existing instructional designs, a program model was developed and is presented in Chapter IV. The program model is structured towards the creation of a baccalaureate program for approved vocational educators and for implementation at the University of Massachusetts at Boston. The program model was presented to various components of the academic community at the University of Massachusetts at Boston, and was submitted to the Director of the Institute for Learning and Teaching for his consideration in enacting the program through normal governance procedures.

#### Vocational Education and Liberal Arts

In light of the historical overview which is supported by the data compiled from the survey responses, the issue of liberal versus vocational studies emerged as being of paramount importance. Since the purpose of this study is to develop a baccalaureate degree program model for vocational educators, resolution of this pivotal issue is imperative.

Allowing for the assumption that liberal education should be an integral component of a baccalaureate program, and acknowledging the shifting emphasis towards occupational studies, helps establish the premise that for a new program design to be successful, it should provide an effective blending of the vocational and the liberal arts through a professional education program. One of the critical concerns

in developing a model program is to address the concerns of the traditionalists relative to providing a solid general education background rather than leaning towards an emphasis upon vocationalism. While so doing, a conscious effort must be made to maintain the vocational component's identity as the program becomes tailored to meet the needs of the students. The historical background outlining the controversy between the two schools of thought was documented in Chapter II, yet the practical reality of shifting enrollment figures, changing faculty responsibility, and program emphases and control needs to be addressed.

Citing statistics from the report of the National Institute of Education's study group on excellence in American higher education, Frank Rhodes cites the fact that of the 1,100 different undergraduate majors and programs of our nation's universities and colleges, more than 50 percent represent occupational fields, and that the number of students taking degrees in those fields is increasing (Rhodes, 1985). Indeed, statistics compiled by the Carnegie Commission (1984) provide data validating the shift of undergraduates towards occupational-professional majors (Appendix H and Appendix I). So, too, the number of faculty members teaching in occupational/professional fields far exceeds the number of faculty teaching in subject fields in the humanities, the biological sciences, the social sciences, the arts, and the physical sciences/math or any of these fields combined (Appendix J).

Rhodes offers a suggestion for dealing with the developing conflict which he envisions between the tendency towards excessive vocationalism on the one hand, and the increasingly irrelevant, incoherent liberal arts on the other. His suggestion is to promote both of these areas by

developing programs which contain an emphasis upon professional education. He suggests that many of the characteristics of a liberal education can be inculcated within a professional education program which stresses the spirit of inquiry rather than advocating subjects of inquiry through liberal education studies. Rhodes views professional education programs as providing a means to offset excessive vocationalism in our schools of higher learning. He views professional education as being broad enough and expansive enough to embody skills as a means to other goals. He would place emphasis upon liberal education not as an appendage to vocational studies, but as an integral component of the professional studies themselves.

Seemingly, vocational education needs to be accepted by the liberal arts and blended with professional education in order that programs may be strengthened to a point of general acknowledgement of improved excellence. Yet, the point of emphasis that is most crucial to the bolstering of vocational education programs is to insure the thorough preparation of instructors of teachers of vocational subjects. The problem of effective teacher preparation is a subject which is of major concern at state and federal government levels, within universities, and among the populace as a whole. A program which can be built to capitalize upon the strengths of vocationalism and liberal studies, while being geared to address the professional needs of a specific group of teachers, and one which adheres to existing certification regulations would be timely and beneficial.

For a model program to be effective, a distinctive blending of the liberal arts and professional studies would need to be developed in such

a manner that the value of each component will not be obscured, nor would feelings of domination or disenfranchisement be felt by either faction.

### Adult Education Trends

There is evidence to support the premise that an adult population of vocational teachers would attend a university to further their education and obtain a degree. This factor led to another major concern in addressing the program model (aside from the vocational versus liberal education emphasis), namely, to build in provisions for the unique population which the program would be designed to serve. Since the prospective students would be mature adults, ranging in age from the mid-twenties to the sixties, experienced tradesmen, as well as being experienced teachers, the fundamental principles of andragogy would need to be considered in planning the academic framework.

Statistics are plentiful that indicate that there are many adults in America who plan to enroll or have already begun formal education programs in our colleges and universities, and many more who are learning in locations outside of the academic environment. In considering the multistages of changes that occur during the typical adult life, it seems reasonable to note that over one-half of the adult learners continue their education because they seek a new job, or desire to enhance their qualifications for a better job. Also influencing these changes are factors such as jobs becoming obsolete, reduced retirement restrictions, and the need to gain a competitive edge in the job market by furthering one's educational preparation. On the other hand, factors which



have been singled out as the primary obstacles for adults who desire to return to college to further their education are: situational barriers (money, time, transportation), dispositional barriers (personal fear of failure, lack of confidence), and institutional barriers (inconvenient schedules, restrictive locations). Also, most adults learn in order to move out of some status they must or wish to leave and into a new status they must or wish to enter (Aslanian and Brickell, 1980).

It is estimated that 10 million adults are currently enrolled in courses, programs, and studies offered at colleges and universities. Of this number, five million are adults enrolled in programs leading to a degree on a part-time basis. This figure represents more than 40 percent of higher education's total enrollment (Huddleston and Henry, 1983). Of significant consideration is the projection that over 40 million people are in the process of career transition, with 60 percent of those people indicating that they plan to acquire more education to improve themselves. In addition to this group, there is an untapped pool of 15 million college dropouts who might be induced to return to colleges for programs which are designed to meet their needs.

Within the next five years, approximately 48 percent of all college students are expected to be part-time; and by the year 2000, the U. S. population will be dominated by persons in their middle years. (Huddleston and Henry, 1983)

Researchers have discovered that adult life is filled with transitions as adults move from one stage of life to another. Career transitions and renewed learning associated with these transitions is a regular occurrence within adult populations. Yet the proposed transition to enroll in renewed learning experiences through a degree program at a

local university will provide a novel, challenging, and somewhat frightening situation for most of the vocational educators. A determination will have to be made as to the resolve of these "older" college students with regard to their determination to enroll in and pursue a degree. Also to be determined will be the extent of their commitment and choice of where and when they will attend classes. Consideration must be given to providing academic as well as social support structures as reinforcement for this adult population.

#### Benefits of a Baccalaureate Program

Another premise of this study is that the quality of teaching and learning would be improved through the completion of a baccalaureate program.

The need for a pedagogical training and the benefits to be accrued when vocational educators complete degree programs have been reinforced through several studies. Fagan's (1970) study of the effectiveness of teacher education programs for beginning trade and industrial teachers clearly indicates that the level of teacher performance increases with added amounts of teacher preparation, and that the maximum level of pre-service training should be adopted and used as a minimum preparation time requirement.

According to the results of Moore's study (1976) and a study by Fields (1978), there is unqualified support for the contention that a four-year program produces a better quality teacher. Both Moore and Fields have indicated that there is evidence to verify that vocational teacher education does produce a quality product.

The filter-down benefit which public school students will receive from being taught by a vocational education teacher who schools himself beyond the minimum certification requirements was cited in the Kapes and Pawlowski study (1974). The Kapes and Pawlowski results produced positive conclusions that the teacher characteristic which was most favorably linked with student success was the number of college credits which had been earned by the teacher. The more college credits which had been earned by the teacher, the higher the student score on the standardized occupational competency test which was administered.

Thus, it would logically follow that the teacher who continues his or her education, beyond certification requirements, to obtain a baccalaureate degree would prepare a more highly skilled and teachable high school student. The implications of this study strongly suggest that the baccalaureate degree approach to the preparation of vocational teachers should be expanded and utilized as the primary condition of employment prior to hiring a vocational teacher. This study also strongly emphasizes that, in the future, there should be less encouragement placed upon the certificate route to teacher training, and more emphasis given to the development of a strong baccalaureate program.

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CHAPTER IV  
RESULTS OF THE STUDY

Boston Survey

In light of the evidence pointing towards a need for a baccalaureate program, the persistent dilemma of emphasizing the interests of vocational or liberal education, and the concerns of an adult population of prospective students, a view will be presented of the University of Massachusetts at Boston as a site for the model program. The foregoing matters are addressed directly through surveys of vocational teachers in the Boston area.

Each semester, the Division of Continuing Education at the University of Massachusetts at Boston offers courses which may lead to full approval status for vocational teachers. Presented as part of the University's extension services, the courses are offered in isolation, that is, without regard for transferability or as a lead-in to existing degree programs. Optimum utilization of the University's resources is often limited by the fact that the courses are frequently held at satellite facilities, such as area public schools. The courses, as presented, provide little adaptability to existing programs, a minimal sense of University involvement, and little consideration for the unique problems of the adult learner who is unfamiliar with collegiate expectations and requirements.

Irrespective of the benefit derived from receiving full approval through the completion of these courses, students have vocalized extreme concern about the terminal nature of their studies. Indeed, even the



instructors of the courses have criticized the limited benefit of transfer to degree programs which the courses provide. Suggestions have been made by students and instructors alike that to be more effective, approval courses should be integrated as part of an overall degree program, building upon approval and work experience, rather than maintaining an isolated course format. Further suggestions were offered that a degree program which included the approval courses would be most desirable, and that intense interest would be generated if such a program developed. These reactions would appear to be in line with the findings critical of continuing education as a delivery system, in general, for formal programs of in-service, including complaints that programs were poorly planned, irrelevant to the demands of people's work, and unconnected to each other or to the teacher's needs. "As a group, the students of continuing teacher education are weary from excessive demands of the occupation, dulled from the routinized work with children, and frustrated by the lack of opportunity for intellectual, purposeful exchange with adults" (Lanier and Little, 1986).

A survey was taken (Appendix E) of a population of 50 vocational teachers who were enrolled in approved courses at the Harbor Campus of the University of Massachusetts at Boston. The 50 vocational teachers represented the total number of individuals available at the time the survey was taken. The purpose of the survey was to verify the interest of vocational teachers of trade and industry to pursue a program beyond approval courses leading to a degree. In addition, data was sought which would determine the preferred location for such a program, and whether graduate as well as undergraduate programs would be needed.

The selection of respondents for the study population was considered important, in that each respondent would fit the profile of the target audience: a tradesman, lacking a degree, and working under provisional approval. Thus, the high percentage of positive responses to the question of interest in obtaining a degree is considered a positive indicator of the need for a degree program.

Of the 50 vocational teachers polled in the Teacher Survey, 48 (96 percent) indicated the desire to complete an undergraduate degree program. In addition, 27 of these respondents (54 percent) indicated their intention of continuing their education at the graduate level, upon completion of the undergraduate degree requirements. Twenty-three individuals (46 percent) were not considering working towards a graduate degree at the time of the poll. Also, 47 of the 50 responding (94 percent) indicated that they would probably pursue their study at the University of Massachusetts at Boston.

The results of the Teacher Survey revealed that:

1. Respondents indicated a desire for a baccalaureate degree program which builds upon the vocational background of teachers, and which includes the approval courses as required by the Massachusetts State Department of Education. Strong personal motivation and the desire to attain degree status were clearly in evidence among the group of vocational teachers surveyed.
2. Respondents indicated that the University of Massachusetts at Boston would appear to be a probable

location for the establishment of such a program. From discussions with respondents, it was ascertained that the proximity of the Harbor Campus at the University of Massachusetts at Boston to large numbers of Boston area teachers, the ready access to public transportation, and the current involvement and reputation of the University, accounts for its designation as a probable site for the development of such a degree program. (See Table 1.)

#### Follow-Up Survey

As a direct result of the positive indications registered by the 50 participants in the preliminary Boston survey, an exploratory meeting was convened for those who had expressed interest in developing a baccalaureate program in vocational education at the University of Massachusetts at Boston. Area vocational school teachers were informed of the meeting and invitations were sent to the 48 positive respondents in the initial survey (Appendix K). An additional 36 individuals made 84 prospective degree-seeking students who attended the meeting. Also, it should be noted that over 60 telephone calls and letters of acknowledgement were received from individuals who were interested in a degree program, but could not attend the meeting.

An open session providing information and a question-and-answer period was held. The participants at the meeting raised questions and expressed concerns relative to: their perceived status within their own school systems; prospects for promotion, job security, and advancement

TABLE 1  
 TABULATION OF SURVEY OF THOSE ENROLLED  
 IN APPROVAL COURSES

	YES	NO
1. Are you interested in completing your undergraduate degree program?	48	2
2. Will you pursue your study at the University of Massachusetts at Boston?	47	
Elsewhere?	3	
3. Will you pursue a course of study for a graduate degree?	27	23

while lacking a degree; being pressured by their school administrators to enroll in degree programs; time and work restrictions; transfer credits; the desire to become better teachers; academic expectations of the University of Massachusetts at Boston; tuition and related financial matters; the availability of support services; and fitting a program to their needs. At the conclusion of the open session, a follow-up survey was administered to the 84 teachers who were present (Appendix G). The objective of this survey was to reinforce or dispel the preliminary sampling results which had indicated a need for an undergraduate program geared to vocational educators; to ascertain the academic and work experience level of the prospective students; and to begin to accumulate data which would be helpful in organizing courses, schedules, and program considerations.

Through their attendance and participation at this meeting and the completion of the follow-up survey, the preliminary indication of support for the establishment of a degree program was underscored. (See Table 2.) Tabulation of the results indicated that 84 (100 percent) of those in attendance would plan to enroll in a baccalaureate degree program for vocational teachers of trade and industry at the University of Massachusetts at Boston.

Almost three-fourths of the prospective students (73 percent) would anticipate enrolling in two courses during the initial semester of study. Also, a majority of the individuals polled would favor late afternoon or early evening classes scheduled Tuesday through Thursday. Few students would enroll to the extent that they would be registered as full-time students. Approximately one-third of the respondents (26)



TABLE 2  
 FOLLOW-UP SURVEY RESULTS OF THOSE EXPRESSING  
 AN INTEREST IN A BACCALAUREATE PROGRAM

---

1. Number of Courses You Plan to Take During First Semester	
One Course . . . . .	15
Two Courses . . . . .	61
Three Courses . . . . .	7
Four Courses . . . . .	1
2. Most Convenient Day of the Week for Courses (Monday-Friday)	
Monday . . . . .	15
Tuesday . . . . .	20
Wednesday . . . . .	19
Thursday . . . . .	28
Friday . . . . .	2
3. Best Time of Day to Attend Classes	
4:00 P.M. - 5:15 P.M. . . . . (class meeting twice per week)	43
6:00 P.M. - 7:15 P.M. . . . . (class meeting twice per week)	21
7:30 P.M. - 8:45 P.M. . . . . (class meeting twice per week)	2
6:00 P.M. - 8:30 P.M. . . . . (class meeting once per week)	18
4. Interest in Saturday Morning Classes if Available	
Yes . . . . .	26
No . . . . .	58
5. Specific Major Course of Study	
Education . . . . .	65
Other . . . . .	14
No Response . . . . .	5

---

would opt for Saturday morning classes if they were made available. Of some importance for program consideration was that Education was the most frequently cited major of preference of those responding to this item.

#### Other Considerations

It should be noted too that in addition to these survey results of those enrolled in courses, indications are that there are several hundred vocational educators in the Boston area alone who would avail themselves of a baccalaureate program. A list has been compiled of over 200 individuals in the Boston area who have completed the approval courses at the University of Massachusetts at Boston. Some of these individuals were among the 84 in attendance at the open meeting which was held at the Harbor Campus of the University of Massachusetts at Boston. These are individuals who have already completed the six course approval program, only to find no appropriate applicable degree program available to them. Also, on a statewide basis, there are 300 to 400 vocational educators who enroll in the required approval courses each year (Massachusetts Department of Education, 1986), most of whom one might speculate would be interested in continuing their education within a degree program. Indications are that a majority of the available pool of vocational education students would continue in a baccalaureate program at the University of Massachusetts at Boston if one were made available to them.

Through the development of a degree program geared to vocational education, the University would be adhering to its mission of providing

education and training for the needs of the people in the Metropolitan Boston area, would be supplementing enrollment figures, and could be building the foundation for the establishment of graduate programs as well as a dynamic center for occupational education.

#### Survey: Other Universities

Supporting evidence for the foregoing conclusions, based on the study of teachers in the Boston area, was provided by the national sampling of practice at other institutions. (See page 72.) A catalog study was conducted of institutions of higher learning in numerous states in order to establish an indication of higher education's commitment to include degree programs in vocational education as part of their programs of study. Fifty-five colleges and universities were polled across the United States. (See Table 3.) Forty-eight colleges and universities responded to the inquiry requesting current information on vocational programs, resulting in the following analysis of programmatic offerings.

Of the universities and colleges responding to the request for information, 75 percent (36 of 48) offered specific programs in vocational education or vocational/industrial education which led to a baccalaureate degree. (See Table 4.)

In addition, if one were to include the eight institutions which offer related programs or programs of less than a baccalaureate degree (Table 5) with the 36 institutions offering a baccalaureate degree, the result would be a 92 percent commitment (44 of 48) to vocational education by institutions which responded to the inquiry. Also, eight

TABLE 3  
UNIVERSITIES AND COLLEGES POLLED

- 
1. Aberdeen State College
  2. Arizona State University
  3. Bowling Green State University
  4. California State University, Chico
  5. Central Missouri State University
  6. Cleveland State University
  7. Cornell University
  8. Eastern Kentucky University
  9. Fairmont College
  10. Florida State University
  11. Georgia State University
  12. Illinois State University
  13. Indiana State University
  14. Indiana University of Pennsylvania
  15. Iowa State University
  16. Kent State University
  17. Louisiana State University
  18. Michigan State University
  19. North Carolina State University
  20. Northern Montana State University
  21. Northern State College (South Dakota)
  22. Ohio State University
  23. Oklahoma State University
  24. Pennsylvania State University
  25. Rhode Island University
  26. Rutgers University
  27. South Carolina State University
  28. Southern Illinois State University
  29. State University of New York at Buffalo
  30. State University of New York at Oswego
  31. Temple University
  32. Tennessee State University
  33. Texas A&M University
  34. University of Alabama
  35. University of Arkansas
  36. University of Connecticut
  37. University of Delaware
  38. University of Hawaii
  39. University of Houston
-

TABLE 3--Continued

- 
- 
40. University of Maryland
  41. University of Minnesota
  42. University of Mississippi
  43. University of New Mexico
  44. University of North Dakota
  45. University of Puerto Rico
  46. University of Southern Mississippi
  47. University of Vermont
  48. University of Wisconsin
  49. University of Wyoming
  50. Utah State University
  51. Virginia State University
  52. Washington State University
  53. Wayne State University
  54. Western Kentucky University
  55. West Virginia Technical Institute
-



TABLE 4

INSTITUTIONS OFFERING A BACHELOR'S DEGREE IN VOCATIONAL EDUCATION  
OR VOCATIONAL/INDUSTRIAL EDUCATION

- 
1. University of Arkansas
  2. Arizona State University
  3. Bowling Green State University
  4. State University of New York at Buffalo
  5. California State University, Chico
  6. Central Missouri State University
  7. Eastern Kentucky University
  8. Georgia State University
  9. Indiana State University
  10. Iowa State University
  11. Kent State University
  12. Louisiana State University
  13. North Carolina State University
  14. University of North Dakota
  15. Northern Montana State University
  16. Ohio State University
  17. State University of New York at Oswego
  18. Oklahoma State University
  19. Pennsylvania State University
  20. Rhode Island University
  21. Rutgers University
  22. Indiana University of Pennsylvania
  23. South Carolina State University
  24. Southern Illinois State University, Carbondale
  25. Temple University
  26. Tennessee State University
  27. Texas A&M University
  28. University of Maryland
  29. University of Minnesota
  30. University of Puerto Rico
  31. University of Vermont
  32. Virginia State University
  33. Utah State University
  34. Wayne State University
  35. West Virginia Institute of Technology
  36. University of Wyoming
-

TABLE 5

INSTITUTIONS OFFERING PARTIAL OR RELATED PROGRAMS  
IN VOCATIONAL OR VOCATIONAL/TECHNICAL EDUCATION

- 
1. Cornell University\*
  2. Fairmont College\*\*
  3. Illinois State University\*\*
  4. Northern State College (South Dakota)\*\*
  5. University of Connecticut\*\*
  6. University of Hawaii\*\*\*
  7. Washington State University\*\*
  8. University of Southern Mississippi\*\*\*\*
- 

\* Agriculture

\*\* Industrial Arts or Industrial Technology

\*\*\* Associate Degree

\*\*\*\* Advanced Degree Only

institutions had specific programs designed to provide a degree for experienced teachers in trade and industrial vocational education (Table 6). Four institutions (4 of 48) or eight percent offered no programs in vocational education (Table 7).

A summary of the findings of the national poll provides evidence that there is general acknowledgement of, and provision for, the need to provide programs for vocational teachers at baccalaureate and graduate levels. At many of the institutions polled, the vocational education course work is scheduled through the programs of the departments of education. At other universities, separate and distinct departments of Vocational/Occupation Education have been established and are responsible for a wide range of programming, course offerings, and in-service training for vocational educators.

In addition, several universities clearly identify that they have established distinct degree programs geared to meet the professional and general education needs of the trade and industrial education teachers who are employed in the public schools.

#### Sampling Conclusions

Conclusions to be drawn from an analysis of this sampling of university program offerings is that occupational education is an integral component of the collegiate offerings at the universities and colleges surveyed in this study.

Moreover, with three-fourths of the universities indicating the availability of a baccalaureate program, and a vast majority outlining graduate degree programs in vocational education, it would appear

TABLE 6  
PROGRAMS DESIGNED TO PROVIDE A DEGREE PROGRAM  
FOR EXPERIENCED TEACHERS

- 
1. Indiana University of Pennsylvania
  2. State University of New York at Buffalo
  3. Rutgers University
  4. Pennsylvania State University, "The Extended Degree Program"
  5. Eastern Kentucky University\*
  6. West Virginia Institute of Technology
  7. University of Vermont
  8. University of Georgia
- 

\* A.A. Degree

TABLE 7  
INSTITUTIONS OFFERING NO VOCATIONAL EDUCATION  
PROGRAMS

- 
1. University of Alabama
  2. Michigan State University
  3. University of Mississippi
  4. University of Wisconsin
-



evident that the universities and colleges surveyed have given some priority to providing for the educational and training needs of occupationally oriented individuals.

Nonetheless, although some general patterns of organization do exist nationwide, it should be noted that there is an absence of any standardized program of vocational teacher education. Erickson (1985) considers this absence, along with duplications and inefficiencies within institutions and across states, and the relative low priority given to vocational teacher training programs, as major deterrents to improving the status and credibility of vocational education.

In general, most teacher education divisions of the universities polled relate vocational teacher education to three basic divisions: general education, professional education, and occupational skills or subject competence. Undergraduate institutions endeavor to organize their programs to present a balanced program design among the three areas. Yet the emphases and credit hours to be earned within the three areas varies widely from institution to institution as do the credit hours needed for graduation (Appendix L).

Graduate programs, on the other hand, usually place heavy emphasis upon one of the three areas, with general education or professional education usually receiving the most emphasis. At the graduate level, there is seldom evidence of a concentration on occupational skills in deference to the other two areas.

The conventional pre-service and in-service vocational teacher education program uses the teacher-educator as the primary component of the system. The program is offered at university or off-campus sites,

with day or evening classes taught by full-time members of the faculty or by approved adjunct staff, usually local vocational educators. Courses are time-based and are synchronized with the university's academic calendar.

Courses in conventional programs are designed to develop skills in pedagogy as well as the occupational specialty of the individual. General education courses are presented to provide the liberal arts base for the degree program. Frequently, attempts are made to combine an occupational course with a pedagogical course in a blending of the two. Lanier and Little further describe the characteristics of teacher education as relevant for vocational teacher education. "In teacher education, the teachers of teachers represent a diversity of roles and backgrounds--college professors, graduate assistants, public school supervisors or practicing teachers. The curriculum of teacher education includes studies in general education, subject matter specialties, and pedagogy" (Lanier and Little, 1986).

The role of the instructor is dominant in the conventional program, as the instructor is considered to be the main source of the course content. The individual instructors perform all or most of the system's functions and work with rather unrestrictive parameters in designing courses and dispensing much of the system's content through lecture and discussion techniques.

Alternative patterns for organizing and dispensing system content tend towards developing competencies and having the instructor serve as a catalyst to learning, a resource person rather than a dispenser of knowledge. On-site visitation and examination of the programs at

Indiana University of Pennsylvania has provided a wealth of information and resources for developing courses and programs along nontraditional competency-based lines. On the other hand, a study of the programs at The Pennsylvania State University and Rutgers University (including an on-site visit to Rutgers University) exemplified the advantages of traditional course and credit program structures. It was noted that these courses and structures were similar to existing courses and program organizations at the University of Massachusetts at Boston.

Studies of nonconventional program designs have found no significant differences when compared to conventional models, or in selecting one program over another. The findings of Colistra (1975), Kapel and Adamsky (1975), and Foel (1977) support the indication that there is no difference between experimental and conventional teacher education designs. The lack of differences between groups in these studies suggests that, other things being equal, there is no research foundation for selecting one program design over another.

State Department of Education--Division of  
Occupational Education

In Massachusetts, deliberations with the Massachusetts State Department of Education's Division of Occupational Education relative to the findings and indications of the surveys completed, provided reinforcement for the findings of this study and the need for a baccalaureate degree program for vocational education teachers, as well as encouragement to pursue programming in this area.

### Other Universities: Program Models

A comparison with programs currently in operation at colleges and universities nationwide (see page 90) points out that two distinct patterns of program organization prevail. The most frequently used organizational design is a traditional, structured pattern, utilizing a course by course sequence of credits leading to a degree. A few programs fall at the opposite end of the continuum by minimizing the course by course structure in lieu of a competency-based program.

The Center for Vocational Education at Indiana University of Pennsylvania provides a good example of the latter model, offering a nontraditional, field-based and performance-based program. Rutgers University, on the other hand, reflects a conventional model program using the more formalized course and credits pattern.

#### Nontraditional Model

The Center for Vocational Personnel Preparation at Indiana University of Pennsylvania was established to provide a comprehensive program for the preparation and upgrading of vocational teachers, supervisors, and administrators in Western Pennsylvania. The program is designed to serve both pre- and in-service teachers by encompassing provisional certification (15 vocational professional education credits), and a 3-12 credit block of vocational education.

A unique aspect of the program as offered by the Center is the field-based, performance-based delivery system used for the preparation of professional vocational educators. In this type of delivery system,



professional teachers are required to demonstrate essential teaching and administrative skills in a practical work situation. Successful performance of the task ensures that the teacher or the administrator has not only the knowledge required for the job, but also the ability to perform the competencies which are essential to the job. Individuals are required to demonstrate their ability to perform in an actual job situation.

The Program at Indiana University of Pennsylvania incorporates the characteristics of field-based teacher education, performance-based teacher education, directed individualized instruction, self pacing, self evaluation, differentiated staffing, regular supervision, and criterion-referenced evaluation. Learning packets, referred to as modules, are used by the Center's students to develop the desired professional competence. Each module is a directed, self-instructional packet which develops one or more of the professional skills (competencies) desired, and includes the criteria for successful performance of the appropriate skills. The final learning experience of each module requires the individual to demonstrate the ability to perform the newly-acquired competencies in a practical school situation.

Each individual enrolled at the Center receives extensive personal and individual attention from a differentiated staff of professional educators. Each student is supervised regularly by a university staff member known as a Field Resources Person. The Field Resources Person's role is that of a learning facilitator and is responsible for advisement, supervision, and evaluation relative to the individual's instructional program. In addition, each individual is provided with the



expertise of a public school supervisor, the School Resource Person, who helps the individual define needs, select appropriate learning experiences, and provide clarification and feedback of individual performances. The Senior Teacher Educator from the faculty at Indiana University functions as a team leader and coordinator.

There are five areas within the program at Indiana University, each of which includes a specified number of credits which are awarded after the individual has successfully completed a specific number of competencies. The five program areas are: Vocational Intern Certificate; Vocational Instructional Certificate I; Vocational Instructional Certificate II; Supervisor of Vocational Education; and Director of Vocational Education.

### Traditional Model

Traditional program models follow a standard university course/credit sequence as typified by the program at Rutgers University. At Cook College at Rutgers University, students are presented with three distinct degree options in the professional occupational program. The degree options are as follows:

1. Secondary Vocational-Technical Education: A program which is designed to provide a degree for public school vocational teachers who seek the opportunity to continue their studies beyond the certification level.
2. Postsecondary Industrial Vocational-Technical Education: A program which is geared towards

providing a degree for those public school vocational teachers desiring careers in postsecondary schools and industrial settings.

3. Health Care Education and Supervision: A program designed to provide training for health care professionals in gerontology, counseling, and health care management.

In addition, Cook College offers three distinct nondegree options, namely:

1. Vocational-Technical Teacher Certification
2. Coordinator Certification: Cooperative Industrial Education
3. Coordinator Certification: Apprentice Programs

It should be noted that two of these programs are quite relevant to the stated needs of the clientele which the University of Massachusetts at Boston will be serving. Since the expressed need of the vocational education teachers in the Boston area are for certification and a baccalaureate program, nondegree option #1 and degree option #1 lend themselves most readily to adaptation.

Nondegree Option #1 (Vocational-Technical Teacher Certification Program). This program is quite similar to the existing program at the University of Massachusetts at Boston in providing entry level certification (similar to Vocational Teacher Approval) for completing a specified number of courses. It takes two to six years to complete the Rutgers' program. Approved occupational work experience is required prior to taking the 18 semester hours of General Education and 27

semester hours of Vocational Approval Courses. The vocational courses are the identical courses which comprise the initial courses to be taken as part of the degree program (see Degree Option #1 below) affording incentive to continue towards a degree and insuring ease of transfer of credits.

Degree Option #1 (Secondary Vocational-Technical Education). This organization provides a degree program which services 93-129 students each semester. Frequently, students are admitted as nonmatriculated (Special Student Status) through the Nondegree Option #1 (see Nondegree Option #1 above) providing certification only. After meeting success with that program, a student may readily matriculate and transfer credits to the degree program by completing the required forms. Students are advised that the degree program may take as long as ten years to complete.

The degree program requires that students demonstrate an occupational skill proficiency through license or National Occupational Competency Testing Institute (NOCTI) testing. Up to 18 semester hours of college credits may be awarded for this documentation.

The semester hour programmatic breakdown of the degree program is as follows:

- 36 semester hours in liberal arts
- 27 semester hours in core vocational education (Certification Courses)
- 31.5 semester hours in vocational education major courses
- 33.5 semester hours in electives (up to 18 semester hours may be waived for occupational competency)

University of Massachusetts at Boston:  
Policy Structure

In analyzing the historical information and survey data gleaned from this study, the implications for developing a model program at the University of Massachusetts at Boston becomes quite clear. Basically, it is evident that there is a specific population of vocational teachers within the Boston area who aspire to improve their educational background while acquiring a bachelor's degree. The indications are that a program should be structured to meet the particular needs of this group, and that the program should be made available within the Boston area.

It is also evident that the principal problem to be overcome is the blending of the liberal arts within a program having vocational and pedagogical emphasis. As cited earlier by Rhodes, the challenge is to establish a professional education program with liberal arts as a strong ingredient, not merely as a tack-on. Even more imposing in attempting to accomplish this melding is the data indicating that the population to be served is an adult population, one that is geared to practical rather than abstract learning, and accustomed to working through job projects individually, but with close supervision and reinforcement. The typical university learning environment poses problems of orientation and acclimation.

Also indicated from the surveys is the desire for professional improvement through courses in Education which are perceived as courses which will enhance the teaching skills of this population. This viewpoint was supported during open discussions with the vocational teachers

who stressed that they had confidence in their skill areas, but that they needed assistance in imparting their knowledge to their students.

Studies of existing programs at major universities (such as Rutgers and Indiana University of Pennsylvania) provide evidence that successful programs have been tailored around structured models as well as non-structured models. The primary consideration in determining the degree of structure is the strengths within the university, transportation constraints, supervision concerns as dictated by the locale of the population being served, and the professional improvement needs.

Currently offering courses and programs at the University of Massachusetts at Boston are two separate and distinct components of the University: The College of Public and Community Service (C.P.C.S.) and the Institute for Learning and Teaching (I.L.T.). Each division provides unique service to its students.

The College of Public and Community Service was established with a dual purpose of providing access to higher education and careers in public and community service to students who have traditionally experienced limited access and inadequate educational services. The college seeks out students whose experiences and life work have already provided them with a foundation for careers in public and community service. These students are afforded the opportunity to complete degree requirements through a competency-based curriculum design which seeks to identify and build upon the skills and knowledge needed for effectiveness in public and community service. All students are required to demonstrate competence according to high standards of performance which are defined in advance.



The College of Public and Community Service is envisioned as providing a layered strength in several of the crucial areas of concern in developing an appropriate model program. By involving the liberal arts through a well-established and approved general education certificate program which is geared to competency-based performance, several concerns are addressed. The liberal arts will be presented as a fluid component of the overall program, providing individual and small group instruction, close counseling and support, and job-skill performance tasks which fit within a framework not unfamiliar to the population being served. By utilizing cohort groups within its program structure, the College of Public and Community Service will provide an orientation and gradual immersion into the university environment as a support base for the latter stages of the program model. The faculty of the College of Public and Community Service have traditionally worked with adult populations, establishing competency in education, the liberal arts, and professional education through nonconventional situations. This component of the program model is considered to be a unique and dynamic constituent of the overall program design. It would appear to embody the essence of what Ramanathan (1968) considers an ideal scheme of general education, namely, presenting a program of academic studies which consists of "both manual work and academic studies organically built into each other."

The Institute for Learning and Teaching has a dual mission of serving both the students of the University and the school system of the greater Boston area. The Institute is designed to work cooperatively with University faculty and students, public school administrators and

teachers, parents, and community leaders to develop and implement innovative educational projects that directly address the complex issues in public education at the elementary, secondary, and higher education levels. The six courses which are required for Vocational Teaching Approval are offered through the Institute for Learning and Teaching. In addition, certificate degree programs are offered in Elementary and Early Childhood Education and certification courses are offered for teaching in a wide range of secondary school subject areas.

By utilizing the resources of the Institute for Learning and Teaching, the model program design will be addressing the survey results which signified a preference for a major in Education. In addition, it will be recognizing the expressed need of vocational educators for assistance in learning more effective teaching methods. Through their enrollment in courses at the Institute for Learning and Teaching, the prospective students will avail themselves of a committed staff of dedicated educators who are well-versed in teaching methods, pedagogy, and the operation of area public schools. Since providing certification courses and teacher training is already an integral part of the job responsibility of the Institute for Learning and Teaching faculty, instituting similar opportunities for vocational teachers should be a welcomed and natural extension of their duties.

Approved courses which are part of existing programs at the Institute for Learning and Teaching closely parallel structured designs for vocational teacher education programs at other universities. These courses could be readily modified in order to allow rapid implementation of the model program. Other courses which might be added will need to

undergo the university approval process before being substituted within the program at a future date.

To address the need for a strong and specific vocational skill foundation, each candidate in the program will be evaluated on an individual basis. The technical teaching specialty of each prospective student will be evaluated by a committee of representatives from the College of Public and Community Service, the Institute for Learning and Teaching, and vocational public school administrators. Results of State qualifying examinations, the National Occupational Competency Testing Institute examinations (for those who have transferred from other states), public school evaluations and recommendations, and self-evaluation will be utilized. A determination will be made of the specific level of skill attainment which has been attained within one's particular vocational area of expertise. Academic credit will be allowed for proficiency within one's specialty, and additional courses or experiences may be prescribed if updating or additional skill refinement is needed.

### Summary and Conclusions

Vocational teacher education programs often include a wide range of activities which vary extensively from state to state and from institution to institution within states. Indeed, the term "vocational teacher education," according to Erickson (1985), "suggests a program that for all practical purposes does not exist. There is no standard pattern that applies across the board to all vocational fields." While pre-service and in-service activities have dominated the major emphasis

of vocational teacher education programs, there has been a preponderance of other activities associated with departments of education, and local school staff initiatives. Nonetheless, it is estimated by the State Department of Education (Appendix C) that approximately 50 percent of the 11,000 persons who have qualified as vocational education teachers in Massachusetts, since the approval process was initiated, have done so under Chapter 74 approvals. Yet, at present, there is no institution of higher education within the greater Boston area which offers a specific program for approved vocational teachers leading to a baccalaureate degree.

As a result of the surveys conducted as part of this study which indicate a need and a ready market for a vocational education baccalaureate degree, the literature reviews which verify the benefits to be derived from the establishment and use of a degree program which can blend the professional studies component with general education, encouragement in the form of consultation with the State Department of Education, and comparisons of existing programmatic considerations at universities nationwide, one could readily conclude that there is justification for establishing a baccalaureate program for vocational teachers within the Boston area.

Model programs at other universities have been studied with an eye to incorporating positive aspects of those programs which are successful as they would pertain to the organizational structure of the University of Massachusetts at Boston, and as they relate to the needs of the prospective clientele in the Boston area. It has been determined that many of the necessary components for establishing a unique and exciting

program are already in place at different branches of the University. Through cooperative efforts of various segments of the University, a model program can be developed which will contain the best features of the traditional, structured program design and the incentives and application of practical learning which the competency-based/performance-based program offers. Since the new program to be developed will be one that is not part of an existing approved degree, the approval process within the University will have to be followed along with the approval of the University of Massachusetts Board of Trustees and the Commonwealth of Massachusetts Board of Regents of Higher Education.



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CHAPTER V  
MODEL PROGRAM PROPOSAL

Recommendations

In light of the foregoing analyses and conclusions, it is recommended that a new degree program in Education with a concentration in Occupational Education be offered at the University of Massachusetts at Boston. The proposed program would build upon the long-standing, successful Approval Program for Occupational Education teachers that the University acquired from Boston State College in 1982. The program applicants will complete a core in general education through the College of Public and Community Service and will complete the major and approval courses through the Institute for Learning and Teaching.

As structured, the design of this program will serve as a model of inter-college cooperation, for its innovative curriculum will combine the competency-based general education (offered by the College of Public and Community Service) with a professional major component (offered by the Institute for Learning and Teaching). The inter-college model will be designed to meet the unique needs of the program's projected student body, while adhering to the stated philosophy, goals, and objectives of the College of Public and Community Service, the Institute for Learning and Teaching, and the University.

The fundamental philosophical problems which have developed historically between vocationalists and traditionalists will be tempered through a blending of the general studies program with a professional studies program, minimizing the separate but distinct tendencies of

either branch. By incorporating a competency-based approach to general education, a more practical means of attaining the requisite liberal knowledge and analytical skills will be provided, in a form and time sequence which is more appropriate for the adult learner than traditional course designs.

By agreeing to joint planning and merged resources within two branches of the University, the harmful affects of a dichotomy leading to a dualistic system will be minimized. In addition, the concern for an intelligent mixture and a balanced curriculum will be accommodated through the blending of the professional, academic, and technical within this program design.

Academic credit will be allowed for demonstrated competency within a given technical teaching specialty in accordance with policies generally in effect at other universities, and in keeping with the recommendations of consultants. Nonetheless, it should be noted that the liberal studies to be undertaken by the students in this program will equal or surpass the equivalent credit hour requirements in liberal arts which other students at the University are required to take. Also, the professional education component includes a full complement of twelve courses leading to a major in Education.

### Program Overview

The Bachelor of Science in Education program with a concentration in Occupational Education will be designed primarily for in-service teachers of trade and industrial education at vocational technical schools. The program will be geared to meet the academic and

professional training needs of skilled craftspersons and tradespersons who have been granted provisional teaching approval by the State Department of Education, and who desire to complete a program leading to full approval as well as a baccalaureate degree.

In addition to providing for the in-service needs of vocational teachers, the program may serve to provide business and industry with skilled employees who have both educational and occupational experience backgrounds for possible positions as training officers, supervisors, or management personnel.

Work towards the degree can be completed through late afternoon, evening, and Saturday classes as well as during summer sessions. Competency-based learning will be utilized in order to encourage individual initiative, self-paced process, and to insure basic levels of achievement.

Thus, vocational teachers who are lacking a degree will be afforded the opportunity to enhance their employment status, advance professionally, and improve their academic and pedagogical skills.

Applicants for admission to this program will represent a varied and diverse background of expertise and skill training. As adult learners, they will have attained maturity, a high level of proficiency in a particular trade, life experience learning, and knowledge as a classroom teacher. In addition, their backgrounds may reflect a wide range of courses taken at area institutions which may be acceptable as transfer credits.

These factors necessitate and encourage great flexibility in admissions standards and evaluation. The application of each candidate will

be screened carefully by an admissions committee consisting of the Director of the Program and a committee representing the teaching faculty.

### Degree Requirements

All candidates for the Bachelor of Science degree in Education with a concentration in Occupational Education must satisfy all University requirements for graduation and must complete the program requirements of the Institute for Learning and Teaching and the College of Public and Community Service.

### Program and Course Requirements

Students enrolled in this baccalaureate program will be expected to complete the six courses (18 semester hours) of vocational approval courses. Completion of these courses will, in effect, provide full approval as a vocational education teacher by the State Department of Education. These courses are accepted and approved courses which are currently offered through the Institute for Learning and Teaching.

In addition, the students will be expected to complete the Applied Learning and Math as well as the General Center Certificates at the College of Public and Community Service. The Applied Language and Math Certificate consists of a total of 14 competencies, while the General Center Certificate consists of 20 competencies. Students may be excused from any competencies (and therefore from courses) if they demonstrate knowledge of that material through prior learning.



The students will be expected to complete a Professional Education Core (Major) of 12 courses offered through the Institute for Learning and Teaching.

Also, students in the degree program will be required to demonstrate occupational skill proficiency in a vocational teaching specialty via acceptable licensure or appropriate testing. Credits may be prescribed according to the specific occupational skill of each student.

#### Program Model

The program will include four components. These components include:

I.	Vocational Education Core (approval component)	6 courses
II.	College of Public and Community Service General Education (2 certificates)	14 courses
III.	Professional Core (Institute for Learning and Teaching Major)	12 courses
IV.	Technical Teaching Specialty	<u>8 courses</u>
	TOTAL:	40 courses

The program model totals 120 hours of credit.

Part I: Vocational Education Core  
(6 Courses Required)

Occ Ed 201	Fundamentals of Occupational Education
Occ Ed 202	Management of Vocational Education Environment
Occ Ed 203	Teaching Methods of Vocational Education I
Occ Ed 204	Teaching Methods of Vocational Education II
Occ Ed 205	Curriculum Development Occupational Education
Occ Ed 206	Supervised Internship

Part II: General Education  
(2 Certificates; 14 Courses Required)

Applied Language and Math Certificate	14 Competencies
General Center Certificate	20 Competencies

Following is an example of a mix of courses and competencies which a student might well use to cover the College of Public and Community Service requirements in General Education and Applied Language and Math:

Assessment (in groups of 22 students)

1. Self-Assessment: Who Am I/What Do I Plan to Learn?
2. Human Communications: Sending/Receiving
3. Individual Roles in Groups
4. Speaking I

Beginning Reading and Writing (many students will be excused by test)

5. Reading I
6. Writing I

Intermediate Reading and Writing (some students will be excused by test)

7. Reading II
8. Writing II

Basic Math (many students will be excused  
by test)

9. Math I

Algebra (a few students may be excused by test)

10. Math II

Advanced Math (double course--usually two semesters)

11. & 12. Public Service Math or Statistics or  
Computer Science--two competencies in  
any one field

Advanced Concentration: Labor History

- 13. Explanation of Historical Change
- 14. Evaluation of Theoretical Explanation
- 15. Speaking II
- 16. Basic Organization

Advanced Concentration: History of Education  
(two-semester course)

- 17. Explanation of Historical Change
- 18. Evaluation of Theoretical Explanation
- 19. Interpretation and Argument
- 20. Action Project
- 21. Writing IV-A

The following competencies will be earned through a mixture of General Center courses and directed study with General Center and Applied Language and Math Center faculty. On the average, a student will need four courses to complete this work.

- 22. & 23. Criticism and Argument Area--two competencies
- 24. & 25. Applying Disciplines Area--two competencies

- 26. Reading III
- 27. Writing III
- 28. Writing IV-B

Part III: Professional Education Core  
(Major; 12 Courses Required)

- Ed 200 Education and Human Science
- Ed 201 Educational Psychology
- Ed 256 Dimensions in Valuing
- Ed 333 Behavior Modification and Classroom Management
- Ed 334 Issues and Principles in Curriculum
- Ed 336 Alternative Approaches to the Teaching of Reading
- Ed 341 Developing Literacy in Content Areas
- Ed 401 Remedial Reading
- Ed 403 Computers in Education
- Ed 410 Individualizing Instruction for Special Needs Students
- Ed 422 Educational Measurement
- Ed 599 History and Philosophy of Vocational Education

Additional courses to be developed and offered as substitutes or electives for above as need warrants include:

- 1. Speech Lecture, Group Discussion for Classroom Teacher
- 2. Seminar/Practicum in Teaching
- 3. Instructional Strategies Through Design and Use of Media
- 4. The Development and Application of Robotics
- 5. Utilizing Industry, Business, and Community Resources
- 6. Safety Procedures in Vocational Education Environments
- 7. Laser Technology

Part IV: Technical Teaching Specialty  
(8 Courses Required)

Students in the degree program are required to demonstrate occupational skill proficiency via acceptable licensure or appropriate testing. Additional courses may be prescribed according to the specific occupational skill of each student. (See page 110.)

Figure 1 outlines the progression of three prospective categories of students through the model program.

The first pattern (represented by  $\text{---}\text{---}\text{---}\rightarrow$ ) would be followed by teachers in vocational schools who have completed the six courses in the Approval Program, and who are seeking application and transfer of those courses within a degree program. Upon applying to the Institute for Learning and Teaching for admission to the program, and upon being notified of acceptance, this group of students would be counseled towards the general studies. This cohort group would begin their studies by completing the General Education component through the College of Public and Community Service. From that point, their program would lead to the Institute for Learning and Teaching for their major and prescribed courses.

The second pattern (represented by  $\text{---}\rightarrow$ ) represents vocational education teachers who have not completed the six required courses, and are not at full approval status. Upon applying to the Institute for Learning and Teaching for admission to the program, and upon being notified of acceptance, this group of students would initiate their studies by enrolling in the courses leading to full approval status. This cohort group would begin their studies by completing the Vocational

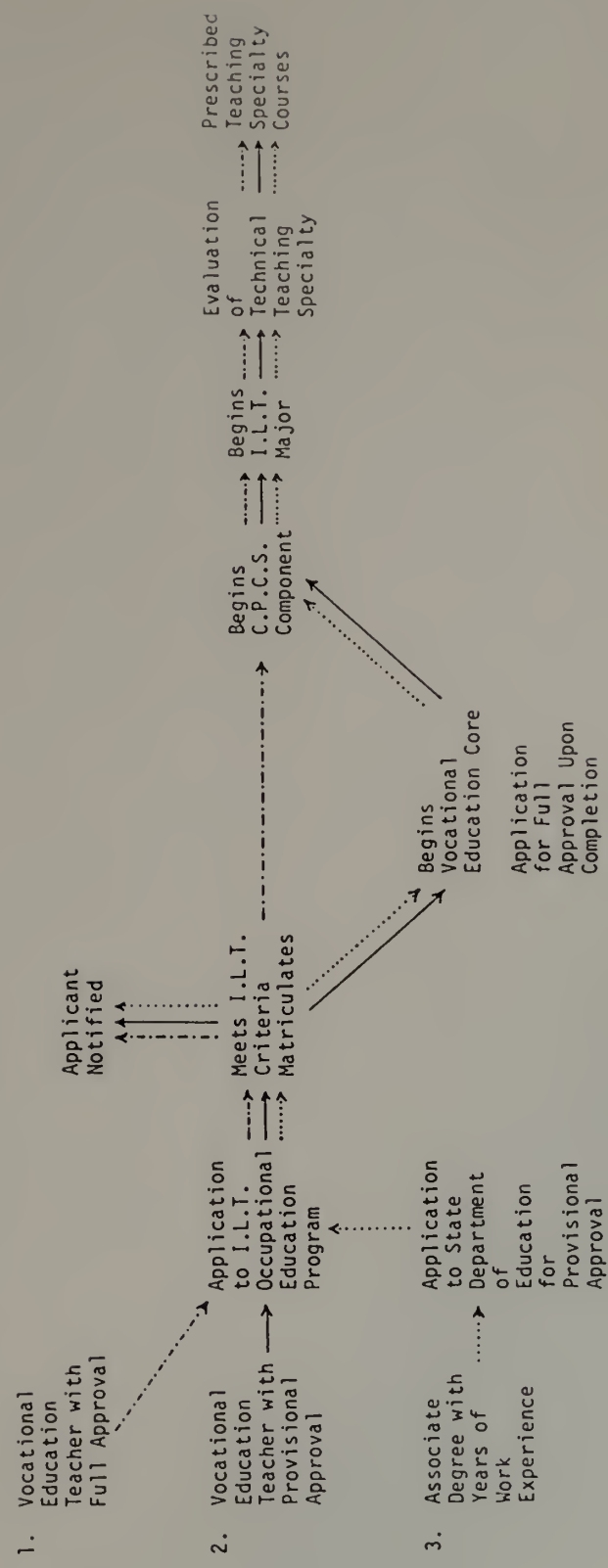


Education Core before proceeding through the General Education component offered by the College of Public and Community Service. Thereafter, they would proceed to complete the professional education sequence and prescribed specialty courses through the Institute for Learning and Teaching.

The third pattern (represented by .....>) represents a cohort group new to the field of vocational education. This group would need to acquire teaching positions and initiate occupational evaluation of their expertise through the State Department of Education prior to beginning the sequence of the Vocational Education Core.

After receiving provisional approval and completing the six course sequence leading to full approval, these students would proceed through the course requirements at the College of Public and Community Service and the Institute for Learning and Teaching.

FIGURE 1  
PROGRAM MODEL



CHAPTER VI  
SUMMARY AND IMPLICATIONS

The findings of this study have indicated that a majority of the survey respondents would choose to enroll in a baccalaureate program, on a part-time basis, preferably with a major in Education. In addition, the findings show that the University of Massachusetts at Boston would appear to be a likely site for the establishment of a baccalaureate program geared to vocational teachers of trade and industry. Furthermore, indications are that on a national level, programs in vocational education leading to an undergraduate degree are offered at a majority of state institutions of higher education through either a traditional or nontraditional program design.

Having established the need for the development of a baccalaureate program geared to vocational educators in the Boston area, a design of a program model needed to be developed. The program model would have to take into account the deep philosophical and pedagogical rift which has existed between proponents of vocationalism and advocates of liberal studies. This pervading problem has been addressed by enlisting the cooperative efforts of two distinct branches of the University of Massachusetts, blending the professional and general education strengths of each.

The program also needed to provide for the unique concerns of an adult population, heavily burdened with constraints of personal, social, and institutional nature. These problems were addressed through the establishment of cohort groups to provide mutual support and counsel,

and through the blending of a competency-based, self-paced general education requirement which afforded extensive flexibility in scheduling courses.

The policies and regulations of the Massachusetts State Department of Education relative to approval and certification of teachers was a factor to be considered in the program design. By including the Massachusetts State approved Vocational Teacher Approval courses as a mandatory integral part of the program model, compliance with Massachusetts State Department of Education regulations was assured.

Studies of structured and nonstructured programs at colleges and universities throughout the United States provided guidelines of courses, programs, policies, and organizational patterns which appeared successful. It was noted that a universal policy of providing academic credit for proficiency and competence already acquired within a given trade or occupation was well established. Provision was made within this program model to permit the granting of credit for knowledge and skill competencies in a technical teaching skill.

Deliberations with teachers, administrators, and consultants were organized to generate suggestions and ideas for a practical program design. A novel program design resulted, one which utilized structure through course work during the professional component, and a competency-based general education sequence. This design evolved as the best means of incorporating the existing strengths of other program designs, the programmatic strengths and assets of the University of Massachusetts at Boston, and the needs of the vocational teachers in the Boston area.

### Recommendations

Once the program is established, it should be closely monitored to evaluate the strengths and weaknesses within the program design. Additional courses which might be more relevant should be developed and implemented, and a determination should be made of the effectiveness of the existing balance between competency-based courses and traditional courses. The possibility for developing a program which is totally competency-based should be explored.

An examination should be made of the cooperative efforts between the major divisions of the University of Massachusetts at Boston to determine that there is fluidity of movement for the student; transcript, registration, application, and other paper work is not a hindrance; support services through cohort groups and regular University counseling services are in place; and provision for student input into the program is developed.

Steps should be undertaken to sound out the interest of business and industry, apprenticeship programs, and clientele who may not be involved in vocational teacher preparation to determine what program adaptations might be made to interest a broader range of prospective students to enroll.

In addition, immediate initiative should be provided to develop graduate programs which will be in place to service vocational teachers who complete this baccalaureate degree program or teachers who have previously earned a degree.



Through the enactment of this program, teachers in vocational schools will receive not only certification (approval), but a bachelor's degree as well. In addition, they may be qualifying themselves for graduate school, improving their teaching and academic skills, and qualifying for financial incentives and job promotions. The University of Massachusetts at Boston will be meeting its avowed goals by improving the quality of teaching and providing service to the community.

#### Suggestions for Further Study

The following might be considered for further research on the subject:

1. A study to measure the teaching effectiveness, perceived status enhancement, or financial/promotional reward achieved by those who complete the degree program.
2. A study of the Massachusetts State Department of Education's approval/certification policies and how they may be adapted to reflect degree status and the career ladder effect.
3. A study of the academic achievement of each of the vocational teacher cohort groups as they compare to traditional students at the University of Massachusetts at Boston.
4. A study of programs and policies at area universities which service vocational teachers to determine areas

of future cooperation and collaboration in providing  
for the future needs of vocational teachers.

APPENDICES

APPENDIX A:

BASIC REQUIREMENTS TO QUALIFY AS A SHOP INSTRUCTOR  
IN CHAPTER 74 STATE-AIDED VOCATIONAL PROGRAMS



## The Commonwealth of Massachusetts Department of Education

1385 Hancock Street, Quincy, Massachusetts 02169

### BASIC REQUIREMENTS TO QUALIFY AS A SHOP INSTRUCTOR IN CHAPTER 74 STATE-AIDED VOCATIONAL PROGRAMS

**Education:** The minimum requirement is a high school diploma or a Massachusetts High School Equivalency Certificate. An equivalency certificate from another state must meet Massachusetts' requirements.

**Experience:** At least six recent years of approved full-time experience in the trade in which the applicant proposes to teach. A bachelor's degree in the specific trade area from an accredited college or university may be substituted for three years of the required six years experience. An official transcript must be submitted. The six recent years should be within the past ten years.

**Examination:** Successful completion of a written examination and a performance test in the trade area.

The following documentary evidence MUST BE SUBMITTED with the application for it to be properly processed:

High school, vocational school diploma or a Massachusetts Equivalency Certificate. If the candidate has completed a college degree, an official transcript may be submitted. You cannot substitute additional experience for the minimum educational requirement.

Trade or occupational experience must be on letterhead of the employing firm and must give dates of employment and type of experience. It must be signed by the employer. Only originals are accepted--no copies. Resumes are not acceptable as official documentation.

Persons employed in the building trades, who may have been working for many different contractors over the required six years, are allowed to present evidence of employment in the form of notorized statements from the Business Agent of the Union. If non-union, some evidence must be presented from a similar authority in order to cover the trade experience.

Self-employed persons may present evidence in the following manner: bank statements, letters from customers, banks, suppliers, invoices, contracts on letterhead. At least five (5) forms of evidence are required. The letters must indicate dates and the specific type of work performed. Letters from suppliers, banks and tax accountants should indicate the volume of business conducted. Federal tax forms as additional backup material may be used to verify dates and volume.



Applicants whose work experience is under the Commonwealth of Massachusetts licensed trades must submit a copy of their current licenses as indicated. Aircraft Maintenance--FAA License; Cosmetology--Instructors and Hairdressers License; Electrical--Journeyman License; Plumbing and Pipefitting--Journeyman License; Radio and TV Repair--Radio and TV License; Steam Engineering--Second Class Fireman's License.

Your application will be processed and reviewed for the next competency test in your field. If accepted, your name will be sent to Fitchburg State College. You will receive further instructions from the testing coordinator at the college. If you want to teach evenings only, the examination is not required.

You will be required to pay a testing fee prior to the test administration. Fitchburg State College will include this bill with your instructions. Do not send checks to this office. There is no charge to process your application. The written vocational competency exam is offered at least twice yearly. The cutoff dates are January 15 and August 15. A practical examination is scheduled every spring after the written exam. Each June, workshops on testing designed specifically for candidates for this examination are offered in conjunction with the annual professional improvement conference for vocational personnel. Successful completion of the written and practical competency test will give you provisional approval. This approval is valid for three years during which period you must complete eighteen credits in a teacher training program.

The courses in this program are offered by the University of Massachusetts/Boston, Fitchburg State College, and Westfield State College at different locations throughout the state in order to make them accessible to candidates. For information regarding the scheduling and content of these courses, candidates should contact Dr. Franz Nowotny at Fitchburg State College, Dr. Gerard Antonellis at the University of Massachusetts/Boston, and Professor Lawrence LaTour at Westfield State College.

If you wish to receive approval by our office for coursework completed in previous years or at other institutions, you must submit an official transcript from the college or university. If the course title is different from our title, then additional documentation must be included (e.g., catalog description, course outline, etc.). Upon completion of the required teacher training program (18 credits), you must request that the college send an official transcript of coursework to our office. When we receive an official transcript, we will match it with your file and issue you a certificate of full approval.

The Office of Professional Development, Bureau of Program Services (770-7361) is the only official source of information about the Chapter 74 vocational teacher approval process. We are not responsible for any misinformation which you may receive from other sources. It is your responsibility to obtain the appropriate approval certificate for the

Chapter 74 teaching position you are seeking. It is also your responsibility to notify us of any changes in name and address.

Send completed application with documentation to: Eugene E. Curran, Coordinator, Office of Professional Development, 1385 Hancock Street, Quincy, Massachusetts 02169.

APPENDIX B:

FISCAL YEAR 1985 OCCUPATIONAL ENROLLMENTS

FISCAL YEAR 1985

	NUMBER OF TEACHERS BY OCCUPATIONAL AREA-- SECONDARY	OVERALL STATEWIDE ENROLLMENTS IN OCCUPATIONAL PROGRAMS--SECONDARY
Agriculture	124	1,489
Distributive Education	122	4,067
Health Occupations	105	1,921
Consumer and Homemaking	105	33,655
Occupational Preparation for Homemaking	1,002	
Office Occupations	1,689	78,441
Technical	163	2,345
Trade and Industry	2,371	33,360
Industrial Arts	1,209	50,723
Program Support Staff	1,010	
Program Supervisors	242	
Other	<u>230</u>	
TOTAL:	8,372	

Source: Massachusetts Department of Education, MINI-PLAN, 1986-1988.

APPENDIX C:

LETTER FROM COORDINATOR OF OFFICE OF PROFESSIONAL DEVELOPMENT  
DIVISION OF OCCUPATIONAL EDUCATION/MASSACHUSETTS  
DEPARTMENT OF EDUCATION





Division of Occupational Education

# The Commonwealth of Massachusetts

## Department of Education

1385 Hancock Street, Quincy, Massachusetts 02169

November 5, 1985

The teacher training institutions are playing a critical role in assisting vocational personnel in obtaining both full approval and professional improvement as required under the Chapter 74 Regulations governing vocational education. Since the Division of Occupational Education does not teach college courses, we must depend upon other agencies to perform this critical function for us.

There are approximately 11,000 vocationally approved personnel in Massachusetts. Of this number, there are about 6,000 individuals currently working under Chapter 74 approvals. All of these people are required to complete sixty (60) professional improvement credit hours every two years.

This office has approved approximately 100 vocational instructors of special needs students since that area of approval was initiated in 1979. This program remains an area of interest among vocational personnel.

Several vocational approvals have a bachelor's degree as the minimum educational requirement. Of those who begin teaching without a baccalaureate degree, approximately fifty percent go on to complete it. We could estimate that there are about 500 instructors in the baccalaureate programs at the various institutions at any one time.

The newly developed Performance Based Teacher Education courses which are being implemented by the University of Massachusetts will do much to ensure that vocational educators will receive appropriate pedagogical training.

Sincerely yours,

Shirley McLean, Coordinator  
Office of Professional Development  
Division of Occupational Education

SMcL/mjc

APPENDIX D:

ESTIMATED TEN-YEAR DEMAND FOR ADDITIONAL SECONDARY  
VOCATIONAL EDUCATION TEACHERS BY  
PROGRAM AREA, 1984-1993

ESTIMATED TEN-YEAR DEMAND FOR ADDITIONAL SECONDARY VOCATIONAL EDUCATION TEACHERS  
BY PROGRAM AREA, 1984-1993

SECONDARY TEACHER DEMAND	VOCATIONAL .20	HEALTH .06	AGRICULTURE .05	MARKETING .06	CON/HEC .19	OCC/HEC .21	BUSINESS EDUCATION .21	TECHNOLOGY .03	T & I .19	IA .11	NEC .07
1984	59,000	708	590	708	2,242	354	2,478	354	2,242	1,298	826
1985	62,000	744	620	744	2,356	372	2,604	372	2,356	1,364	868
1986	56,000	672	560	672	2,128	336	2,352	336	2,128	1,232	784
1987	46,000	552	460	552	1,748	276	1,932	276	1,748	1,012	644
1988	38,000	456	380	456	1,444	228	1,596	228	1,444	836	532
1989	47,000	564	470	564	1,786	282	1,974	282	1,786	1,034	658
1990	52,000	624	520	624	1,976	312	2,184	312	1,976	1,144	728
1991	66,000	792	660	792	2,508	396	2,772	396	2,508	1,452	924
1992	80,000	960	800	960	3,040	480	3,360	480	3,040	1,760	1,120
1993	86,000	1,032	860	1,032	3,268	516	3,612	516	3,268	1,892	1,204

APPENDIX E:

SURVEY OF TEACHERS ENROLLED IN COURSES AT  
THE CENTER FOR OCCUPATIONAL EDUCATION

SURVEY OF TEACHERS ENROLLED IN COURSES AT  
THE CENTER FOR OCCUPATIONAL EDUCATION

Name: \_\_\_\_\_

Position: \_\_\_\_\_

School System: \_\_\_\_\_

Office  
Telephone #: \_\_\_\_\_

Business Address: \_\_\_\_\_  
\_\_\_\_\_

Zip: \_\_\_\_\_

Home Address: \_\_\_\_\_  
\_\_\_\_\_

Home  
Telephone #: \_\_\_\_\_

Title of your current course(s): \_\_\_\_\_  
\_\_\_\_\_

Location of your current class: \_\_\_\_\_

Your primary field of concentration: (Please Check One)

- Vocational Approval Course Sequence  
 Industrial Arts Course Sequence  
 Vocational Special Needs Course Sequence  
 Other

What courses will you need in the future? (Specify by Exact Title)

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Primary reason for taking your series of courses: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

Miscellaneous comments:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Are you interested in completing your undergraduate degree program?

Yes       No

Will you pursue a course of study for a graduate degree?

Yes       No

Will you pursue your study at the University of Massachusetts/Boston?

Yes      Elsewhere: \_\_\_\_\_



APPENDIX F:

LETTER REQUESTING VOCATIONAL EDUCATION PROGRAM  
INFORMATION



*The Commonwealth of Massachusetts*  
*University of Massachusetts - Boston*  
*Harbor Campus*  
*Boston, Massachusetts 02125*

Dear

The Center of Occupational Education will soon become an integral component of the University of Massachusetts/Boston's Institute for Learning and Teaching. This development will enable the Center to conduct undergraduate and graduate degree programs in Vocational Education.

I would greatly appreciate it if you could send me descriptions of your undergraduate degree and graduate degree programs and courses in Vocational Education. Also, if possible, forward me any literature which would increase my understanding of your program and course(s) of studies.

Looking forward to hearing from you soon.

Sincerely,

Gerard P. Antonellis, Ed.D.  
Director  
Center for Occupational Education

APPENDIX G:

UNIVERSITY OF MASSACHUSETTS  
VOCATIONAL EDUCATORS' ASSESSMENT

1. PERSONAL DATA:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number:            Work: \_\_\_\_\_            Home: \_\_\_\_\_

School System or Business Firm: \_\_\_\_\_

Address: \_\_\_\_\_

2. Please list all college/university level courses which you have taken.

Vocational Education Approval Courses:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other Courses:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Are there courses which you have taken but cannot remember their titles?    Yes: \_\_\_\_\_    No: \_\_\_\_\_

Approximately how many courses? \_\_\_\_\_

3. If interested in attending a degree program at the University of Massachusetts/Boston, how many courses would you plan to take during your first semester?

- \_\_\_\_\_ One
- \_\_\_\_\_ Two
- \_\_\_\_\_ Three
- \_\_\_\_\_ Four
- \_\_\_\_\_ Five

5. Which day of the week is most convenient for you? \_\_\_\_\_





APPENDIX H:

UNDERGRADUATE ENROLLMENT IN OCCUPATIONAL-PROFESSIONAL MAJORS  
(BY INSTITUTIONAL TYPE AS A PERCENTAGE OF ALL MAJORS)  
1969, 1975, AND 1984

UNDERGRADUATE ENROLLMENT IN OCCUPATIONAL-PROFESSIONAL MAJORS  
(BY INSTITUTIONAL TYPE AS A PERCENTAGE OF ALL MAJORS)  
1969, 1975, AND 1984

	1969	1975	1984
Two-Year Colleges	56.9	57.9	56.9
Liberal Arts Colleges I	24.9	11.1	19.6
Liberal Arts Colleges II	42.3	46.0	73.0
Comprehensive Colleges and Universities I	49.9	60.1	62.2
Comprehensive Colleges and Universities II	76.4	51.8	64.2
Doctorate Granting Universities I	56.0	54.6	57.3
Doctorate Granting Universities II	41.6	57.4	57.3
Research Universities I	41.4	47.9	53.4
Research Universities II	45.4	59.6	57.5

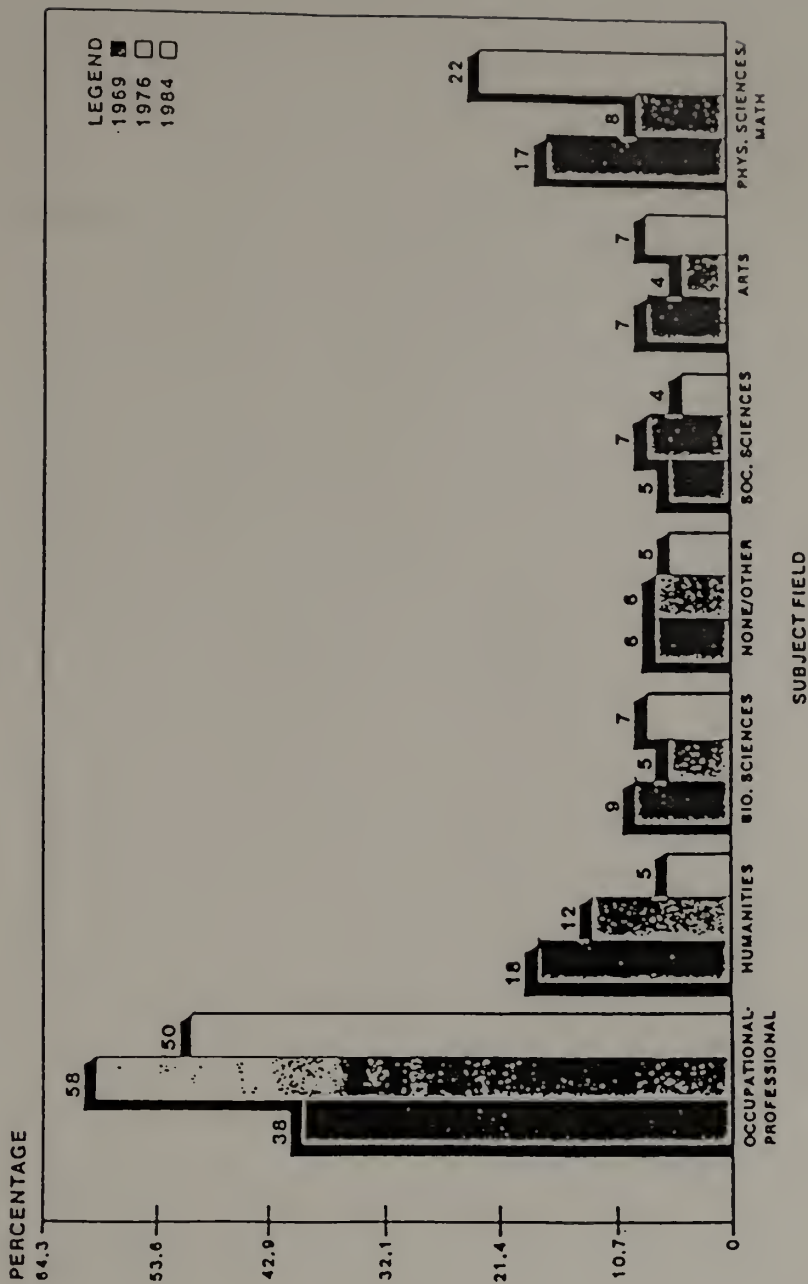
SOURCE: National Surveys of College and University Undergraduates, Carnegie Commission on Higher Education, 1969; Carnegie Council on Policy Studies in Higher Education, 1975; The Carnegie Foundation for the Advancement of Teaching, 1984.

APPENDIX I:

PERCENTAGE OF UNDERGRADUATE ENROLLMENT IN MAJORS  
BY SUBJECT FIELD: 1969, 1976, AND 1984

PERCENTAGE OF UNDERGRADUATE ENROLLMENT IN MAJORS BY SUBJECT FIELD: 1969, 1976, AND 1984

CHART I

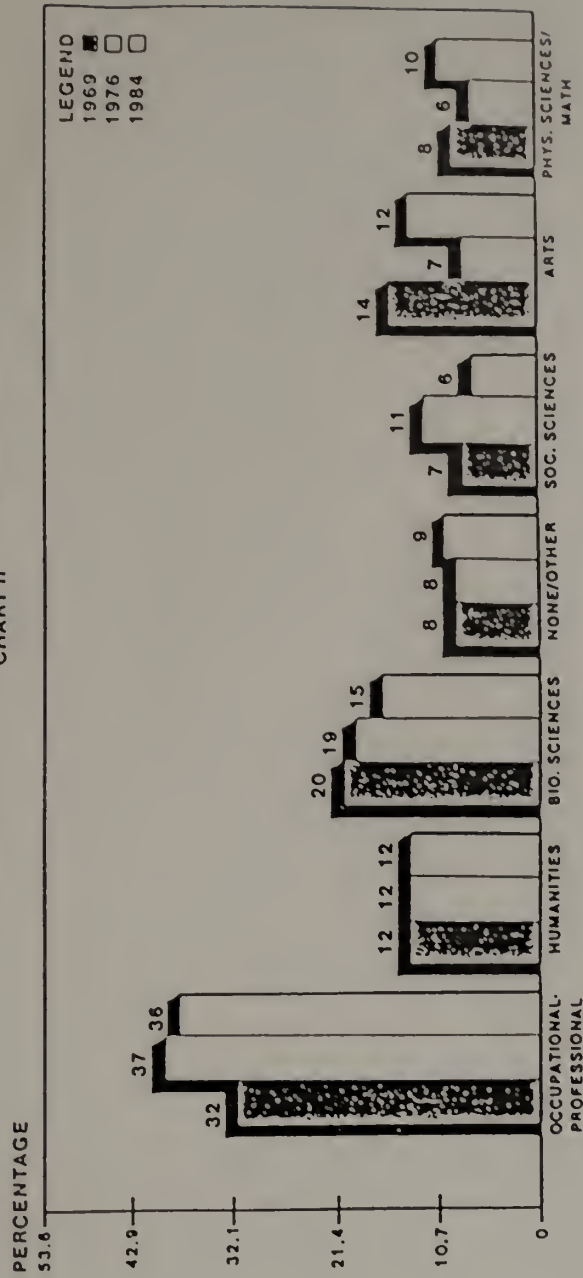


SOURCE: CARNEGIE FOUNDATION NATIONAL SURVEYS

APPENDIX J:

PERCENTAGE OF FACULTY TEACHING IN SUBJECT FIELDS:  
1969, 1976, AND 1984

PERCENTAGE OF FACULTY TEACHING IN  
SUBJECT FIELDS: 1969, 1976, AND 1984  
CHART II



SUBJECT FIELD

SOURCE: CARNEGIE FOUNDATION NATIONAL SURVEYS



APPENDIX K:

LETTER OF INVITATION TO VOCATIONAL EDUCATORS  
TO ATTEND A SPECIAL INFORMATIONAL MEETING



*The Commonwealth of Massachusetts*  
*University of Massachusetts - Boston*  
*Harbor Campus*  
*Boston, Massachusetts 02125*

Dear Vocational Educator:

The results of the survey of teachers enrolled in courses at the Center for Occupational Education have been reviewed by the faculty of the Institute for Learning and Teaching at the University of Massachusetts at Boston, and we are now prepared to begin exploring how we can best service your needs.

We are cordially inviting you to attend a special meeting at which we hope to learn more of your educational and professional needs, as well as assist you in determining which University programs might allow you to continue your education towards a Bachelor's Degree.

The meeting will be held on Tuesday, September 25, at 4:00 p.m. in the Faculty Club (11th Floor, Healey Library) at the Harbor Campus of the University of Massachusetts at Boston. Wine and cheese will be served.

We are anxiously awaiting a chance to meet with you. We hope that you will be able to attend this important meeting.

Sincerely,

James Collins  
Associate Director  
Institute for Learning and Teaching

APPENDIX L:

COMPARISON OF COURSE DISTRIBUTION IN FIVE  
OCCUPATIONAL EDUCATION BACHELOR'S PROGRAMS

COMPARISON OF COURSE DISTRIBUTION IN FIVE OCCUPATIONAL EDUCATION  
BACHELOR'S PROGRAMS

	VOCATIONAL EDUCATION	GENERAL EDUCATION	PROFESSIONAL EDUCATION	ELECTIVES*	TOTAL
University of Massachusetts at Boston	42	42	36	0-24	120 <sup>1</sup>
Rutgers University	27	36	31.5	33.5	128 <sup>2</sup>
University of Minnesota	26	48	45	12-57	131 <sup>3</sup>
Georgia State University	30	45	55	9-25	129 <sup>4</sup>
State University of New York, Oswego	36	60	30	0-30	126 <sup>5</sup>
Pennsylvania State University	58	38	21	0-27	134 <sup>6</sup>

<sup>1</sup>Includes up to 24 hours for area of teaching speciality.

<sup>2</sup>Includes up to 18 hours for area of teaching speciality.

<sup>3</sup>Includes up to 45 hours for area of teaching speciality.

<sup>4</sup>Includes up to 25 hours for area of teaching speciality.

<sup>5</sup>Includes up to 30 hours for area of teaching speciality.

<sup>6</sup>Includes up to 24 hours for area of teaching speciality.

\*Electives are estimates based on the number of hours awarded in the area of teaching speciality which frees up a program for electives.

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