A RATIONALE FOR THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
LEON J. ALGER
1967

This is to certify that the

thesis entitled

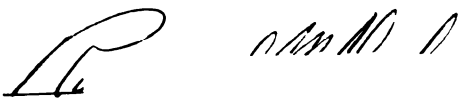
A RATIONALE FOR THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

presented by

Leon J. Alger

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Education



Date May 19, 1967

ABSTRACT

A RATIONALE FOR THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

by Leon J. Alger

Purpose

The major purpose of this study was to show why area vocational education programs should be developed in Michigan at both the secondary and post-secondary levels and to develop a model for organizational and curricular patterns for vocational education at the local level.

Procedure

The need for vocational education in Michigan was determined through the analysis of empirical data. The type of vocational education needed at various educational levels was determined by analyzing studies and literature dealing with vocational curricula. Broad occupational preparation objectives were suggested for each level.

The cost of providing broad vocational education programs at both the secondary and post-secondary levels was determined. Minimum enrollments to justify the scope of facilities needed were ascertained. A comparison

of enrollments with the number of people needing vocational training and with projected employment opportunities was made.

A philosophy of education and a philosophy of vocational education was developed. The implications of this philosophy for area vocational education programs in Michigan was determined.

Models were developed for vocational education curricula and organizational patterns on an area basis. A survey was conducted of local directors and consultants of vocational education in Michigan to secure their opinions relative to the development of area vocational education programs in Michigan.

Findings and Conclusions

Vocational education is needed by high school youth who will not continue their formal education after leaving high school, students enrolled in full-time post secondary institutions who will not attain a four-year college degree and employed or unemployed workers who require job up-grading or retraining experiences.

Approximately 75% of the ninth graders in Michigan will terminate their formal schooling at or before high school graduation. Enrollment data indicate that vocational education programs in Michigan are not

adequately meeting training needs of employed and unemployed workers. A vertically integrated occupational preparation program should be established which involves all educational levels.

A capital investment in the neighborhood of $2 million is required for adequate secondary area vocational programs and $3 million for post-secondary programs. A high school population of over 6,500 is needed to generate sufficient enrollments to efficiently utilize adequate secondary area vocational education facilities. Minimum enrollment of 1,000 full-time students is suggested in order to provide adequate vocational-technical programs in community colleges. This latter figure is based on the assumption that half of this total would be enrolled in vocational-technical programs.

A curriculum model was constructed which would develop an awareness of the occupational world during the elementary and junior high school years, provide occupational exploratory experiences in the early senior high school, and offer vocational education programs at the late senior high school level based on a "cluster" concept. Post-secondary institutions should provide opportunities for more specialized training and continuing occupational preparation.

Organizational patterns for vocational education were suggested for Michigan which involve area centers in densely populated areas established cooperatively by secondary districts or by a community college district. In sparsely populated areas, secondary centers should be established and operated by community college districts. The community college should serve as the post-secondary area vocational center in Michigan.

A RATIONALE FOR THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

by

Leon J. Alger Jr.

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the
requirements for the degree of

DOCTOR OF PHILOSOPHY

College of Education

1967

ACKNOWLEDGEMENTS

The writer is deeply indebted to his wife, Rosella, for her patience, understanding, support, and untiring assistance in the preparation of the manuscript.

The author is especially grateful for the guidance, assistance, and encouragement of Professor Raymond Clark, who as chairman of his doctoral guidance committee, was most generous with time and counsel. Special thanks are also due Professors Lawrence Borosage, Clyde Campbell, Carl Gross, and Sigmund Nosow for their encouragement and advice as members of the author's guidance committee.

Further appreciation is expressed to Joanne Cherry for her assistance with the manuscript and to Glenn Smith for his editorial suggestions.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

LIST OF APPENDICES

A RATIONALE FOR THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

CHAPTER I

INTRODUCTION

Throughout history, vocational education has performed the vital function of preparing individuals for work in a changing society. Vocational education has as its compelling purpose the preparation of individuals to engage successfully in a socially useful occupation. It includes the development of skills, attitudes, and knowledge necessary for entry into or progress in a chosen vocation. The methods and organizational structure for performing this function of vocational education has varied throughout the country. States have attempted to meet the vocational needs of their citizens in different ways.

Vocational education programs in Michigan have been provided through comprehensive high schools, a relatively few vocational high schools, community colleges, and some four-year institutions of higher education that offer vocational programs of less-than-baccalaureate level. Other states have utilized area vocational schools, sometimes in combination with the above institutions.

As indicated by available data, the Michigan program of vocational education has not adequately met the needs of youth and adults in the state. New types of organizational patterns which involve the area concept of vocational education now are being proposed in the state.

Purpose of Study

One purpose of this study is to show why area vocational education programs should be developed in Michigan at both the secondary and post-secondary levels. In addition, the study is designed to show that these programs are needed now in Michigan in order to meet the occupational preparation and continuing education needs of youth and adults. Another purpose is to develop a model for organizational and administrative patterns at the local level for the provision of vocational education in the state.

Need for the Study

Man's earliest efforts at vocational training revolved around his need to conquer the physical world. In order to survive he had to learn and teach the tasks necessary to provide food, clothing, and shelter. In addition to these tasks, certain individuals were trained as warriors for protective and expansive purposes.

More sophisticated occupations were developed in the ancient nations and in the Middle Ages and the Renaissance. The craftsman's shop was in his home and vocational education was a matter of handing down from generation to generation the skills and knowledge necessary to each craft.[1]

Vocational education in colonial America took the form of apprenticeship. Free public education was not present in the

---

[1]Layton S. Hawkins, Charles H. Prosser, and John C. Wright, Development of Vocational Education (Chicago: American Technical Society, 1951), p. 2-3.

colonies and education was based on the principle that every man was responsible for the care and education of those persons dependent upon him.[1]

The United States' early needs for trained manpower were largely met by the immigration of European journeymen.[2]

The 19th century saw the rise of the factory system and increased mechanization in this country. The decline of apprenticeship and the increased need for skilled workers pointed to the need for occupational instruction. The development of manual-labor schools, lyceums, mechanic's institutes, and technical institutes were an outgrowth of this need.[3]

In the early part of the 20th century, the need for vocational education in the rapidly growing public education system was emphasized by the manpower needs of an expanding industrial economy.[4]

Changing technology reflected in legislation. A growing awareness of the need for an expansion of vocational education throughout the country resulted in the passage in 1917 of the first of several federal vocational education acts.[5] These

---

[1] Ibid.

[2] Ibid. p. 6.

[3] U.S., Department of Health, Education, and Welfare, Education for a Changing World of Work, Report of the Panel of Consultants on Vocational Education (Washington: U.S. Government Printing Office, 1963), p. 19.

[4] Ibid., p. 20.

[5] U.S. Congress, Vocational Education Act of 1917, Public Law 347, 64th Congress, 1917.

acts have provided categorical financial aid within rather narrowly defined limits and have been the basis for strong federal influence in the development of local programs.

Recent federal efforts. Recent federal efforts have resulted in several acts affecting vocational education.[1,2,3] These acts have represented both an expansion of federal support and at the same time provided for greater local and state determination in the development and operation of programs. A significant aspect of the Vocational Education Act of 1963 is the fact that there are no longer any occupational restrictions within the sub-professional category for the use of funds.[4]

Implications for change. As shown in the study conducted by The Panel of Consultants on Vocational Education, there is considerable evidence that vocational education programs are not meeting identified occupational preparation needs in the nation. Among the limitations noted by the Panel were the following:

---

[1]U.S.,Congress, National Defense Education Act, Public Law 85-864, 85th Congress, 1958.

[2]U.S., Congress, Area Redevelopment Act, Public Law 87-27, 87th Congress, 1961.

[3]U.S., Congress, Manpower Development and Training Act, Public Law 87-415, 87th Congress, 1962.

[4]U.S., Congress, Vocational Education Act of 1963, Public Law 88-210, 88th Congress, 1963.

> Vocational education is not sufficiently sensitive to supply and demand factors in the labor force.
> . . . . . .
>
> Vocational education is not available in many schools.
> . . . . . .
>
> Opportunity for vocational choice is greatly limited.
> . . . . . .
>
> Service to the urban population is meager.[1]

The panel set the stage for the Vocational Education Act of 1963 when it said:

> Vocational education has an essential service to perform under. . .changing conditions. Improvements will have to be made and redirection will have to be given to present educational activities in order that vocational-technical education may do its part adequately.
> . . . . . .
>
> Change in the scope and program of vocational education can provide educational opportunities through which many more citizens can achieve the economic security and social well-being consistent with the goals of the Nation.[2]

Arnstein echoed this same feeling in his analysis of the technological context of vocational education.

> There is also increasing realization that the old patterns of vocational education, based in a large part on the Smith-Hughes Act of 1917 and subsequent federal legislation, are not adequate to prepare youngsters and adults for today's technological needs.[3]

---

[1] U.S., Dept. HEW, Education for a Changing World of Work, op. cit., p. 109.

[2] Ibid., p. 217-218.

[3] George E. Arnstein, "The Technological Context of Vocational Education," Vocational Education, Sixty-fourth Yearbook of the National Society for the Study of Education, Part I (Chicago: University of Chicago Press, 1965), p. 39.

Need for direction. Significant as it is, the effect of the Vocational Education Act of 1963 will depend upon the desire and ability of vocational education leaders to bring about needed change and redirection in the program. The job of implementing this legislation will not be an easy one. The Panel of Consultants recognized the problems which lay ahead:

> But change is never easy, since it threatens the pattern of life and work of many. Most persons either consciously or unconsciously resent indications of the need for change. Probably the most common response is to ignore the facts which indicate the need for change and to continue traditional patterns of conduct. This is true of individuals; it is true of institutions.
>
> Other forces that impede change include lack of funds, gaps in knowledge, legislative limitations, and outmoded administrative patterns. However, the forces which hinder change in vocational education can be overcome as the leadership in this field is able to create a program of vocational education to serve society more effectively.[1]

The 1963 Act gives states wide latitude in determining the allocation of resources among various needs. One of the purposes for which funds can be used is the construction of area vocational education facilities which serve the needs of several school districts.[2]

There is an increased emphasis and trend toward the establishment of area vocational education programs as Mobley and Barlow have pointed out:

---

[1]U.S., Dept. of HEW, Education for a Changing World of Work, op. cit., p. 218.

[2]U.S., Congress, Public Law 88-210, op. cit.

> One of the most significant trends in recent years has been the development and spread of area vocational-education programs. Some states have had such programs for many years....If this trend continues, and in all likelihood it will, there will in due time be a system of area vocational programs throughout the nation.1

Michigan has not based vocational education on the area program concept. Perhaps one of the foremost reasons for this has been the educational philosophy held by many educational leaders in the state.

Educational Philosophy in Michigan. The basic philosophy of many Michigan educators appears to have been a factor in attempting to provide vocational education programs on a single school district basis. As is shown in Chapter III, many states have been able to develop broader occupational preparation programs through the cooperative efforts of several districts. The educational philosophy expressed by the Michigan Department of Education has as its cornerstone the belief "that the programs of any school can best be determined by the people living in that school community."2 In the past, this philosophy has been interpreted to mean that each school district must develop its own self-contained program and in the process strive to become comprehensive. This philosophy supports the "community school concept" believing that the school program should be built through

---

[1]Mayor D. Mobley and Melvin L. Barlow, "Impact of Federal Legislation and Policies upon Vocational Education," Vocational Education, Sixty-fourth Yearbook of the National Society for the Study of Education, op. cit., p. 195.

[2]Michigan Department of Public Instruction, A Statement of Basic Philosophy Regarding Public Education in Michigan (Lansing: the Department, 1960), p. 1.

the participation of its citizens and that it should become the center of the community for the use of all. Until rather recently, this philosophy has been built upon a narrow concept of "community".

In recent years, however, this concept of community has been broadened as indicated in the latest official philosophy statement issued by the Michigan Department of Education (formerly Department of Public Instruction):

> Although the school serves primarily those who live in the immediate community, the kaleidoscopic times in which we live make it necessary that we expand our ideas with respect to what really constitutes our community. Today our schools are confronted by problems and situations world wide in scope and import. We can no longer think of the community in a narrow, local sense, but rather, we must consider the community as a vital part of the global whole. We must even face the fact that in the relatively near future our children may well be interplanetary citizens.[1]

In the past, as indicated by this statement, the community was usually interpreted to include only the geographic territory of the individual school district. This philosophy no longer appears to be in conflict with the development of cooperative area vocational education programs, provided they are developed in such a way that the values of the community school concept are not lost. In fact, the Department of Education points out in its statement of philosophy that the changing characteristics of our society must be reflected in a changing school program:

---

[1] Ibid., p. 3.

> The outstanding characteristic of the 20th Century has been that of change. Each succeeding generation finds itself living in a different kind of world. So dynamic, swift, and all-inclusive have been these changes that every aspect of our lives has been affected. These facts must be considered as school programs are planned.[1]

Past Philosophical Conflicts. State officials responsible for administering the vocational education programs have not always agreed upon the merits of providing vocational programs on an area basis.

George H. Fern, former State Director of Vocational Education in Michigan, advocated the establishment of area vocational schools in 1942. Fern outlined a plan for state operated vocational schools in an article published in the Michigan Vocational Outlook.[2] This suggestion met with violent opposition on the part of those who believed strongly in the educational philosophy of community schools.

Later, in 1944, the Michigan Council for Vocational Education Administration, a group of elected local school superintendents formed as an advisory body to the former State Board of Control for Vocational Education, published a bulletin advocating the establishement of area vocational-technical schools in Michigan.[3]

---

[1]Ibid.

[2]George H. Fern, "Area Vocational Schools," Michigan Vocational Outlook, Vol. 5, No. 1 (September, 1942), p. 5-8.

[3]Michigan, Council for Vocational Education Administration, Area Vocational-Technical Schools in Michigan, Second Report of the Council (Lansing: the Council, 1944).

These efforts met with considerable resistance on the part of other state educational leaders. In fact, the State Superintendent of Public Instruction publicly denounced the concept of area vocational schools.[1] The development of state operated and owned vocational schools is, perhaps, still unacceptable today. There remains, however, some question regarding the acceptability of other administrative patterns for providing vocational education on an area basis.

Perhaps indicative of a growing acceptability of the area concept are a number of more recent developments in the state--developments which have as their objective the stimulation and establishment of area vocational programs. These developments are considered in detail in Chapter III.

Need for a rationale. Officials in the Michigan Department of Education feel that considerable confusion exists on the part of educational administrators and their boards of education and boards of trustees concerning the establishment of vocational-technical education programs on an area basis.[2] Clarification is needed regarding the role of various educational institutions at the secondary and post-secondary levels. A rationale for the establishment of area programs is needed which is based on a sound philosophy of vocational

---

[1]Eugene B. Elliott, "Disadvantages of Area Vocational Schools," The Nation's Schools, Vol. 35, No. 4. (April, 1945). p. 23-24.

[2]Interview with Robert M. Winger, Assistant Superintendent for Vocational Education, Michigan Department of Education on September 26, 1966.

education and which can serve as a basis for the formulation of policy at the state and local levels relative to organizational patterns and administrative responsibilities. Administrators and citizens need assurance that the development of area vocational education programs will enhance the total educational process rather than establish a system which would be in conflict with sound educational practice and administration. As will be shown in Chapter III, the area vocational education concept is widely accepted in various parts of the country.

A rationale is needed in order to develop a model organizational pattern for the provision of area vocational education programs which is sound from an economic and philosophical standpoint and which fits Michigan conditions. It is also needed in order to show that the development of high school area vocational programs is compatible with the development of Michigan's community college system and that these two developments need not be in conflict.

Within this study answers are provided to several important questions: What type of vocational education programs are needed in Michigan? What administrative and organizational structure should be developed for vocational education? To what extent can present organizational structure be expected to meet program needs? What evidence is there in support of larger administrative units for vocational education in Michigan? Is there a sound philosophical basis for area vocational education programs?

These questions need to be answered for Michigan within the context of a rationale identifying needed changes in organizational patterns for vocational education.

The Area Vocational Education Concept

The goals of education have expanded over the years and in attempting to meet these goals, school facilities have tended to become more and more specialized and the size of schools has increased. This trend is evident in school buildings being constructed.

Lack of sufficient resources. Small secondary schools find it difficult to provide the diversified programs required to meet the goals of modern education. The American Vocational Association points to two major problems facing small schools in their attempt to provide vocational education:

> Vocational education in particular suffers when it is not adequately supported with sufficient funds to build modern shops and classrooms as well as to buy up-to-date equipment and supplies. Furthermore, in a restricted community there are not enough potential students to offer a variety of courses of study and to warrant specialized teachers, supervisory personnel, counseling services, or vocationally-trained administrators.[1]

Insufficient funds and insufficient numbers of students present serious problems for the small school. Both sufficient numbers of students and sufficient funds must be available for schools to afford and justify offering broad vocational education programs.

---

[1]American Vocational Association, Area Vocational Education Programs (Washington: The Association, 1959), p. 5.

This lack of resources on the part of many school districts has resulted in a lack of vocational education program and facilities. The relatively few facilities providing adequate programs have been widely scattered over the country.

> It must be recognized that only a fraction of the total number of new workers and workers who require additional education can be trained in existing vocational education facilities. Furthermore, it must be recognized that only a comparatively small proportion of the youths and adults who are interested in, qualified for, and able to profit from vocational education have an opportunity to take advantage of such instruction because of the remoteness of training centers from their place of residence, inadequacy of the range of vocational offerings in certain schools, and other limiting factors.[1]

New method needed. The situation faced by small school districts and the resulting inability to provide vocational education opportunities for their students, has prompted some states to develop arrangements whereby several districts can cooperatively provide needed specialized curricula. These "area vocational education programs" are merely a technique for gathering together sufficient resources so that broad, extensive occupational preparation programs can be provided for both youth and adults.

---

[1]U.S., Department of Health, Education, and Welfare, Office of Education, Vocational Education in the Next Decade: Proposals for Discussion (Washington: U.S. Government Printing Office, 1961) p. 69.

> Area schools make possible a wide range of program offerings and consequently many different training choices. Comprehensiveness is the hallmark of area schools. These can well serve as broad vocational service centers for practically all of the needed programs and activities related to distribution, trades and industries, practical nursing, technical occupations, office occupations, agriculture, home economics, and other fields.[1]

Area programs provide a direct solution to the problems brought about by insufficient funds and insufficient numbers of students.

> Area vocational education programs offer a constructive approach to the solution of this problem. Programs which serve the youth and adults of a wide geographical region possess the enlarged student bodies and necessary expanded financial resources needed to provide the facilities, the special personnel and broad curricula required for sound vocational education. Area vocational programs operated by the state, by the county, or by cooperation among local school districts, can offer training to youth and adults who do not now have such opportunities in their local secondary schools.[2]

Organizational patterns. The development of area vocational education programs in the United States has resulted in several different types of organizational patterns. In developing these, it is usually necessary to cut across or replace existing organizational structures.

> Within each state, under the area concept, provision is made for vocational schools and programs that are reasonably accessible to residents in all parts of the state. It suggests the need for broad and effective

---

[1] Ibid., p. 70.

[2] American Vocational Association, Area Vocational Education Programs, op. cit., p. 5.

> planning not only in terms of strategic school locations to meet present and future training needs but also in terms of broad administrative patterns and financial structures developed on as wide a support base as possible. In some cases it may be necessary to cut across or replace traditional organizational patterns in developing area programs.[1]

Area vocational education centers may be administered by a variety of governmental units. Large school districts may provide area programs for the individual schools within the district, cooperative arrangements may be developed among several smaller districts, in some cases county units operate the programs, and in still other cases the state becomes the operating unit.

> Developed and administered by cities, counties, school districts, or other governmental units, these area skill centers, or technical or vocational schools, should draw their pupils from a large enough area to permit full staffing and equipment, and should offer a wide variety of courses. The size of the area served will vary; there may be a number of centers in a large city, or a single center for several counties. The schools should be open to adults as well as young people for full-time and part-time instruction. Their entrance dates should be flexible and times at which courses are offered should be spread over both day and evening hours. The curriculum in these schools should provide training for any occupation in which a job may be reasonably expected and for which youth may be qualified. Training programs for high or less demanding skills should be adequate and of reasonable duration, in order to prepare boys and girls for the occupations they propose to enter.[2]

---

[1] U.S., Dept. of HEW, Voc. Ed. in the Next Decade. . ., op. cit., p. 69-70.

[2] Presidents Committee on Youth Employment, The Challenge of Jobless Youth (Washington: U.S. Government Printing Office, 1963), p. 11.

An important part of the area concept is that area programs be provided for both secondary and full-time post-secondary students as well as for employed adults. As a result, programs are operated in a variety of training facilities.

> . . .area vocational education programs can be housed in many types of training centers. Probably the most favored type is an extensive vocational education school with the buildings, facilities and offerings specifically designed to meet the particular training needs of the area. Area programs housed in an identifiable department within a community college, or regional high school, may serve area purposes and functions if qualified leadership is provided for such departments.[1]

A study conducted by the Division of Vocational Education, Michigan Department of Education, identifies the four most common types of organizational patterns for area programs in ten selected states. These four patterns are: (1) cooperative arrangements among two or more high school districts, (2) programs operated on a county-wide basis, (3) programs operated on an area basis by two-year community colleges, and (4) state operated and administered area vocational schools.[2]

The American Vocational Association has described six types of organizational patterns: (1) decentralized area vocational programs which make arrangements for exchanging

---

[1]U.S., Dept. of HEW, Voc. Ed. in the Next Decade. . ., op. cit., p. 70.

[2]Michigan, Department of Public Instruction, A Survey of Selected Area Vocational Education Programs in the United States (Lansing: Michigan Department of Public Instruction, 1963), (Mimeographed.)

students among schools each of which provides different kinds of vocational training, (2) expansion of the area served by a vocational school to include contiguous non-serviced territory, (3) a separate school for vocational education, built and maintained cooperatively by two or more existing school districts or units, (4) county units established as a basis for vocational education within a county or group of counties, (5) county schools controlled and financed jointly with the state, and (6) state controlled and financed vocational schools serving regions or areas of a state.[1]

Under Michigan school law, five alternative patterns for operating area vocational programs are possible:

1. Decentralized programs in which several neighboring school districts agree to each offer certain programs and to exchange students.
2. Tuition programs in which one school district makes available vocational programs to students from surrounding districts on a tuition basis.
3. Intermediate school district financed programs in which area vocational programs are operated under contract with the intermediate school district board of education by one or more constituent high school districts or by a community college district.

---

[1]American Vocational Association, Service Areas for Vocational Schools (Washington: American Vocational Association, 1949), p. 4.

4. Programs provided by community college districts on an area basis for secondary and/or post-secondary students.

5. Programs established, owned, and operated jointly by two or more high school districts. Such districts do not, however, have joint taxing powers for this purpose.[1]

Definition of Terms

The following terms are used frequently throughout the study and require definition:

1. Vocational Education

The term "vocational education" as used in this study refers to formal instruction designed to develop skills, abilities, understanding, attitudes, work habits, and appreciations, encompassing knowledge and information which prepares both youth and adults, at the high school, post-high school, and out-of-school levels, for initial entrance into and/or advancement within an occupation or group of related occupations. The term excludes education designed to prepare persons for occupations generally considered professional or which require a baccalaureate or higher degree. The term also excludes educational experiences which are commonly provided for

---

[1]Michigan, Department of Education, Division of Vocational Education, Establishing and Operating Area Vocational-Technical Education Programs in Michigan, (Lansing: State Board of Education, 1966), p. 9.

all students and are generally known as "general education." The term includes technical education as defined below. It is recognized, however, that vocational education and general education are inseparable and that all education contributes to occupational preparation in the broad sense.

2. Technical Education

The terms "technical education" and "technician education" are used interchangeably and refer to education designed to prepare persons for occupations which are semi-professional in nature and which require a rigorous science and/or mathematics background. The technician is a person whose work lies in the direction of the testing, development, application, and operation of engineering, or scientific equipment and/or processes. Occupationally, the technician performs semi-professional functions of an engineering, scientific, or highly skilled nature, largely upon his own initiative and under only general supervision of a professional person. He assists the engineer, scientist or other professional person and supplements his work.

3. Area Vocational Education Programs

The term "area vocational education program" refers to an organizational or administrative arrangement whereby two or more school districts (or two or more high schools in the case of large districts) cooperatively provide

vocational education programs for their students. The term applies also to post-secondary vocational education programs available to students from a relatively large geographical area or an area of high population density.

4. Occupational Clusters

The term "occupational cluster" refers to a group of closely related occupations which have similar cognitive and affective elements including principles, theories, skills, processes, materials, products, or knowledge requirements.

Delimitations of the Study

The following delimitations are made for the purpose of conducting this study:

1. The study will be limited to Michigan public education. No attempt will be made to use data from non-public schools. Non-public school pupils will, in many cases, participate in area vocational-technical programs on a shared-time basis.
2. An analysis will be made of selected demographic, economic, labor market, and educational data which have been compiled by various agencies, institutions, and individuals. No attempt will be made to collect original data in these areas.
3. The study will limit its application to public secondary schools and community colleges in Michigan.

No attempt will be made to apply the study findings to four-year colleges and universities offering area vocational education programs. The role of these institutions in a state-wide system of area programs will, however, be recognized.

Basic Assumptions Upon Which the Study is Based

The following assumptions are made as a basis for conducting the study:

1. That desirable organizational patterns for the establishment of area vocational education programs can be determined by an analysis of relevant literature and data.
2. That vocational or technical education through the public schools and community colleges is a necessary part of the educational experience of a large proportion of our population.
3. That providing a desirable balance among vocational, general, and academic education is possible by offering vocational programs on an area basis.

Overview of the Study and Procedures Used

Determination of need. The need for vocational education in Michigan was determined through the analysis of empirical data. Pertinent demographic, economic, labor market, and educational data have been collected and analyzed. These data are used in developing a description of the experiences which

young people and adults should have in order to acquire and maintain occupational competency.

The resources needed for adequate vocational education programs were identified. An evaluation was then made of the extent to which present organizational patterns for public education in Michigan can be expected to meet the vocational education needs of youth and adults.

The development of area vocational education programs. The development of area vocational education programs in the United States and Michigan was traced. Included is a brief history of vocational education in the United States. This background information provided a framework upon which a philosophical base for area vocational education programs was developed.

Development of a philosophical basis. A philosophy of education and a philosophy of vocational education are developed. The implications of this philosophy for area vocational education programs is determined.

Development of organizational patterns. A model organizational pattern for vocational education programs in Michigan is developed. This pattern is based on the identified need for vocational education in Michigan and on the resources necessary to meet this need. The philosophical base which is developed forms the foundation for determining the model organizational pattern.

Summary

This study is designed to provide a rationale for the establishment of area vocational education programs in Michigan and to develop a model organizational pattern for such programs.

Recent federal legislation and the need to change many vocational education programs to more nearly meet the demands of a changing technology, provide the basis for conducting the study.

CHAPTER II

THE NEED FOR VOCATIONAL EDUCATION IN MICHIGAN

The Vocational Needs of Youth

Vocational preparation has been for a long time one of the important purposes of the secondary school in America. Contemporary statements of the purposes of secondary education have emphasized the necessity for providing both liberal and vocational education.

The Cardinal Principles of Secondary Education. The Commission on the Reorganization of Secondary Education, appointed by the National Education Association, formulated the famous "Cardinal Principles of Secondary Education" in 1918. The "objectives" for secondary education identified by the Commission were as follows: (1) Health, (2) Command of fundamental processes, (3) Worthy home membership, (4) Vocation, (5) Citizenship, (6) Worthy use of leisure, and (7) Ethical character.[1] According to Alberty, the efforts of this commission popularized the present-day acceptance of the need for a consistent and unified philosophy of secondary education. He comments that the Cardinal Principles did not

---

[1]U.S., Department of Interior, Bureau of Education, Cardinal Principles of Secondary Education, Bulletin 1918, No. 35 (Washington: U.S. Government Printing Office, 1928). p. 7.

provide much direction for the school program. Courses were divided up among the seven principles or in some cases every subject was expected to help realize all of the "objectives".[1]

In listing the main "objectives" of education, the Commission stated that the student is the focus of education and thus education cannot be separated into parts:

> The naming of the. . . objectives is not intended to imply that the process of education can be divided into separated fields. This cannot be, since the pupil is indivisible. Nor is the analysis all-inclusive. Never-the-less, we believe that distinguishing and naming these objectives will aid in directing efforts; and we hold that they should constitute the principal aims of education.[2]

Purposes of education. The Educational Policies Commission has, on numerous occasions, issued statements on the purposes of education. In 1938, this commission published a report outlining specific goals for education. Included was one under the heading of "objectives for economic efficiency." The report detailed the abilities, understandings, and knowledge necessary for the individual to attain economic efficiency. It defined as a purpose of education the development of the individual as both a worker and a consumer. The statement stressed the importance of vocational guidance.[3]

---

[1]Harold Alberty, Reorganizing the High School Curriculum, (New York: MacMillan Co., 1953). p. 34.

[2]U.S., Department of Interior, Cardinal Principles. . ., op. cit., p. 7.

[3]National Education Association, Educational Policies Commission, The Purpose of Education in American Democracy (Washington: National Education Association, 1938). p. 92-106.

Imperative educational needs of youth. In 1944 the Educational Policies Commission issued its first statement on the needs of youth which was revised in 1952. This list of needs was based to a much greater degree than were previous statements upon the needs of individuals as contrasted to the needs of society. One of these "imperative needs" was:

> All youth need to develop salable skills and those understandings and attitudes that make the worker an intelligent and productive participant in economic life. To this end, most youth need supervised work experience as well as education in the skills and knowledge of their occupations.[1]

The needs of individuals relative to vocational education can be stated in terms of competencies required for occupational proficiency. The Michigan Vocational Education Evaluation Study, completed in 1963, reaffirmed earlier national statements regarding the purposes of vocational education. The following needs of the individual are an adaptation of statements contained in the evaluation report:

1. The mastering of the basic abilities or skills and the technical information according to the standard of the job market or requirements for success in the occupation.
2. An understanding of the requirements of the occupation and how nearly he has met or will be able to meet these requirements.

---

[1]National Education Association, Educational Policies Commission, Education for All American Youth: A Further Look (Washington: National Education Association, 1952), p. 216.

3. An understanding of how to get a job or otherwise to make a beginning in his chosen occupation.
4. An understanding of how to prepare for advancement in his chosen work.
5. An understanding of the relationships between management and employees in his occupation, as well as the functions of their respective organizations.
6. An understanding of the relation of government to his occupation.
7. An understanding of how his occupation functions in relation to others and to the local, state, and national economy.
8. A knowledge of how to utilize the public and private services available to him for use in his occupation.
9. An awareness of, and a disposition to make use of, educational opportunities to qualify for advancement in the occupation; and to acquire new understandings, abilities, and skills resulting from increased application of technology to the occupation of his choice.

10. The development of some ability to make wise decisions on questions facing workers in a rapidly changing occupational setting.[1]

Persons Needing Vocational Education

Both youths and adults need vocational education. Youths need vocational education in order to prepare for an occupation and adults need it for either upgrading their job skills or for retraining for another job. How many people in Michigan can logically be expected to need some type of vocational education? A large proportion of our population receive their occupational preparation in some manner other than through the attainment of a four-year college degree. Vocational education, as defined in Chapter I, is needed by this segment of the population. The following persons are included in this group:

1. Youth enrolled in high school who will either drop out before graduation or will terminate their formal education with high school graduation.
2. Youth enrolled in post-secondary educational institutions who will not attain a baccalaureate or higher degree.

---

[1]Lawrence Borosage, et al, Vocational Education in Michigan, Final Report of the Michigan Vocational Education Evaluation Project (East Lansing, Michigan: Michigan State University, College of Education, 1963), p. 13.

3. Employed or unemployed workers who require job upgrading or retraining experiences in order to achieve stability or advancement in employment.

High school enrollments. Data showing the 9-12 grade enrollment by county in Michigan were compiled. These data are presented in Appendix A. Enrollments in grades 9-12 totaled 488,432 in 1963-64 in Michigan's public high schools. According to Michigan Department of Education records, non-public secondary enrollments were in excess of 61,399. Accurate data on non-public enrollments are not available due to the fact that such schools are not required to report their enrollments and some schools do not voluntarily submit these data to the Department of Education. Available records show that Michigan's high school enrollment is over one-half million youngsters.

Table 1 gives some idea of the relative size of Michigan high school districts. Only seven districts have secondary enrollments in excess of 6,000 students. This figure is significant, as will be shown later in this chapter, in terms of providing adequate vocational programs.

High school dropouts. Much publicity has been given to the high school dropout in this country. The popular press has dramatized his plight and it is generally recognized that the dropout is at a distinct disadvantage when he attempts to compete with the high school graduate in the labor

TABLE 1

NUMBER OF MICHIGAN HIGH SCHOOL DISTRICTS BY ENROLLMENT IN GRADES 9-12 FOR 1963-64

9-12 Enrollment	Number of Districts*
8,000 or more	2
7,000 or more	5
6,000 or more	7
5,000 or more	8
4,000 or more	11
3,000 or more	22
2,000 or more	40

*In 1963-64 there were 529 high school districts in Michigan.

Source: Michigan Department of Education, unpublished records.

market. The Michigan Department of Education reports that twenty-five percent of the ninth graders in Michigan high schools do not graduate with their classmates.[1]

High school graduates. Another factor necessary to consider in determining the number of persons who might be

[1]Lynn M. Bartlett, Public High School Dropouts in Michigan, 1962-63 (Lansing: Michigan Department of Public Instruction, 1964), p.1.

served by vocational education programs is the number of high school students continuing their education beyond high school. Some will, of course, enroll in vocational-technical education programs in Michigan's community colleges or four-year colleges and universities.

A recent study published by the State Superintendent of Public Instruction, indicates that only thirty-four percent of Michigan high school graduates from the previous year were attending "standard colleges, universities, junior colleges, community colleges, etc." in 1960.[1] An additional percentage entered private trade and business schools though it is doubtful that this figure would greatly raise the percentage of Michigan high school graduates who continue their education in some formal manner.

Data are presented in Appendix B showing college enrollment of high school graduates by county. The percent of high school graduates in 1960 enrolled in colleges ranged from a high of fifty percent in Grand Traverse County to a low of seven percent in Lake County, with the state average being thirty-four percent. Among the sixteen counties with over 1,000 high school graduates in 1960, the highest

---

[1]Lynn M. Bartlett, Number and Percent of Michigan High School Graduates Who Enrolled in College for the Years 1950, 1955, 1960 (Lansing: Michigan Department of Public Instruction, 1963), p. 1.

percentage enrolled in college was forty-six in Washtenaw County and the lowest was Berrien County with thirty percent. There is a degree of uniformity, then, among the more populous counties.

It must be remembered that before this class of 1960 reached graduation, twenty-five percent of those who were with the class in the ninth grade had dropped out of high school. This means that seventy-five percent of the ninth graders will terminate their formal schooling at or before high school graduation. These persons must be provided with some type of salable skill before they leave school if they are to compete successfully in the labor market.

National statistics indicate an educational attainment pattern which is somewhat similar to Michigan's. If present trends continue, thirty percent of our nation's youth will not complete high school in this decade. Of those who graduate, fifty-three percent will not continue their education and only twenty percent of the youngsters now in grade school will finish four years of college.[1]

Employed workers. The Michigan Manpower Study predicts that by 1980 Michigan's labor force will total 3,936,000.[2]

---

[1]U.S., Department of Health, Education, and Welfare, Education for a Changing World of Work. . ., op. cit., p. 2-3.

[2]Battelle Memorial Institute, Michigan Manpower Study: Phase I (Columbus, Ohio: Battelle Memorial Institute, 1966). p. 16.

Undoubtedly many employed workers will require vocational education for purposes of upgrading their skills or changing their jobs. Continuous education and training will be a characteristic of the future as pointed out in a recent publication of the U.S. Department of Health, Education, and Welfare:

> Increasingly, workers at all levels will have to devote more time more often to education and training to refurbish skills and knowledge. This may be necessary several times during a worker's life as the concept of his job and, indeed, even his occupation changes.[1]

Continuing education and training as a means for advancement up the "occupational ladder" is implied in the following statement:

> The main role of training programs is to provide these workers with the skills needed to fill the employment vacancies. Unless workers possess the skills required, economic expansion will create more labor shortages as well as employment opportunities. By training the low-skilled unemployed, and by upgrading employed workers for the higher skilled jobs created by economic growth, Manpower training can make economic expansion policies more effective.[2]

Vocational education programs have a responsibility to provide continuing opportunitites for employed workers to secure the education and training which they need to keep pace with a rapidly changing occupational world.

---

[1]U.S., Department of Health, Education, and Welfare, Education and Training: Key to Development of Human Resources (Washington: U.S. Government Printing Office, 1964), p. 27.

[2]Ibid.

Unemployed workers. In April of 1966, there were approximately 98,000 unemployed workers in Michigan representing 3.1 percent of the labor force.[1] This figure has varied considerably during recent years. A certain amount of unemployment will always be present requiring that efforts be made to assist these individuals to retrain themselves for available jobs. The U.S. Department of Labor has pointed out the necessity of providing training opportunities for the unemployed:

> A fourth area of need is for enlarged opportunities for training and retraining of unemployed workers. Current technological developments are leading to obsolescence of skills for a great number of workers, to actual layoffs for some, and to very limited job opportunities for the unskilled. The provision of adequate training opportunities for unemployed and underemployed workers who cannot meet current hiring requirements is thus one of the costs society must pay as it reaps the benefits of technological progress.[2]

Vocational education programs are a key element in meeting this retraining need. Training opportunities must be provided for the unemployed and the employed as well as for those who are preparing for their first job.

---

[1]Michigan, State Coordinating Committee for Michigan's Manpower Development and Training Plan, The Michigan Manpower Development Plan for Fiscal Year 1967 (Lansing: Michigan Department of Labor, 1966), p. II-C-1.

[2]U.S., Department of Labor, Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training (Washington: U.S. Government Printing Office, 1965), p. 95.

Needed Vocational Education in Michigan

A vertically integrated curriculum. Each educational level--the elementary school, the junior high school, the high school, and the community college and university--must play a unique role in preparing the individual for the world of work. Education for occupational competency should be thought of as a continuum embracing educational experiences from the time a youngster begins his formal education and extending throughout his working life. This concept must include all educational experiences including those designed to enable the individual to lead a full and satisfying life as a participant in a democratic society as well as those designed specifically for occupational preparation.

A recent study completed by the Massachusetts Institute of Technology focused on the need for a new approach to vocational education. The study report contained a statement indicating the need for developing an integrated occupational preparation curriculum:

> The need for such new approaches and materials exists at all grade levels from kindergarten through college, but the middle grades are in many ways the most critical and form a natural point of entry. It is at the beginning of the junior high school years that a discontinuity in the pattern of the educational curriculum appears--the transition from the relatively unstructured sequence of courses in separate disciplines. Furthermore, the rapidly expanding curriculum reform programs for the elementary level in mathematics, science, social studies and the other areas are based on the kind of learning that grows

> from involvement with the evidence underlying knowledge. These provide an ideal background for the purposes at hand. From the intermediate grades as a base, the flow of students and experience into the senior high school can then lead smoothly into a few, broad, closely related avenues of study with manifold possibilities for crossover. . .. Out of such closely coupled educational operations can come new opportunities leading to the traditional four-year college or other post-high school formal education, such as the community college or technical institute, or to continuing education on the job.[1]

This statement suggests that articulation between the several educational levels should be smooth and that there should be continuity of programs.

Member school districts of the Educational Research Council of Greater Cleveland have undertaken a significant project designed to restructure the school curriculum at all levels in order to develop a vertically integrated curriculum for occupational education. This project involves defining the role of each educational level for developing occupational competency.[2]

These efforts indicate a need for redefining occupational education programs in terms of all the formal educational experiences of the individual.

---

[1]N.H. Frank, Summary Report of the Summer Study on Occupational, Vocational and Technical Education (Cambridge, Mass.: Massachusetts Institute of Technology, 1965), p. 5.

[2]Educational Research Council of Greater Cleveland, Sequential Programs in Occupational Education for a Restructured Curriculum (Cleveland: Educational Research Council of Greater Cleveland, 1966).

Implementation of the vertically integrated curriculum concept. In determining the type of vocational education needed in the Michigan public school system, it is necessary to identify the contribution which each educational level should make toward the development of individual occupational competency.

It is important that the contribution of general or liberal education to the total education of the individual be noted. This will be discussed further in Chapter IV. It is sufficient at this point, however, to recognize that general education and vocational education are of equal importance in the total development of the individual. In this regard, aspects of general education are provided at all educational levels.

Recently, efforts have been made to determine the role of the elementary school, the junior high school, the high school and the community college in developing occupational competency. One of the most extensive undertakings is the project being conducted by the previously mentioned Educational Research Council of Greater Cleveland. This project has resulted in several recommendations for improving the secondary school program. Included are the following:

1. Occupational counseling services should be available for all 6 years (grades 7-12).
2. Students should develop desirable attitudes about

work in the elementary, junior high, and senior high school grades.

3. Students should develop appreciation for work. In the junior high school, courses designed to provide occupational exploratory experiences and a course in occupational information should be available.
4. Each student should develop an individual plan for preparation for work upon entering senior high school.
5. Preparation for entry to work should be available for all students who plan to enter the work force prior to graduation from high school or immediately thereafter.
6. Appropriate courses should be provided in high school for those students who will continue their occupational proparation in a post-secondary program which does not lead to a four-year college degree.[1]

The public school of Niles, Michigan, is a member of the Educational Research Council of Greater Cleveland and this system is developing a new curricular approach to occupational education following the recommendations of the Council. The Niles project is intended to adapt the traditional curriculum to meet better the occupational preparation

---

[1]Educational Research Council of Greater Cleveland, op. cit., p. ix-x.

needs of youth. Some aspects of the program will start in the elementary grades with most of the new approach coming in grades seven to twelve. Occupational guidance and counseling will play a major role in the project.

The Niles project contains the following elements:

1. The development of an awareness of the occupational world at the elementary level.
2. In the junior high school all students will be involved in a series of exploratory experiences built around several areas or clusters of occupations.
3. In the ninth grade additional depth of study in the "cluster" courses will be available. In addition, a unit in occupational information will be taught. Each student will prepare a plan of occupational preparation to guide him in developing his senior high school program.
4. In the 10th, 11th, and 12th grades, courses will be available that will afford students opportunities to develop basic skills and attitudes in occupational areas of their choice.[1]

Another development of significance is the work being done by the American Institutes for Research. Altman recently described several projects being conducted by this organization

---

[1]Richard B. Warren, Developing a Program of Occupational Education for All Students (Niles, Michigan: Niles Public Schools, 1966), (Mimeographed.)

and outlined a plan for an "integrated vocational curriculum". He identified the following major objectives for such a curriculum:

1. Elementary school. (a) An elementary concept of career dynamics and alternatives, and (b) the relationships of education and learning to a satisfying career.

2. Junior high school. (a) A sensible tentative choice between academic and non-academic education, (b) a coherent and flexible educational plan, and (c) contingent vocational plans.

3. Senior high school. (a) Realistic career plans and a flexible view of the future, (b) achievement of initial career training objectives, and (c) development of basic vocational capabilities.[1]

Altman's "objectives" were based on his analysis of several related research efforts conducted by the American Institutes for Research.

The writer recognizes that very little research has been done relative to the concept of a vertically integrated vocational education curriculum. Nevertheless, in describing the type of vocational education programs needed in Michigan's public education system, some conclusions are drawn which suggest the role of various educational levels in providing occupational education. Consideration is given to the elementary, junior high school, and early senior high school curricula in order to show the relationship of certain

---

[1]James W. Altman, Toward a Concept of Integrated Vocational Education (Pittsburgh: American Institutes for Research, 1965), p. 11. (Mimeographed.)

programs and experiences to vocational education which could be developed in the late senior high school and in post-secondary programs.

The elementary school. Children, at an early age, should begin to acquire an understanding of the world of work. This should include beginning the development of attitudes and basic understandings which are essential for successful participation in the occupational world. Perhaps this can be accomplished by systematically integrating into the curriculum those experiences which will provide youngsters with stimulating opportunities to learn about the occupational world.

The junior high school and early senior high school. At this level, the process of providing information about the world of work should be continued and expanded. This requires that teachers become more knowledgeable about occupations, especially those associated with their particular subject matter areas.

In addition, students should be exposed to exploratory occupational experiences. These experiences should be organized as specific courses available to all students--both boys and girls, college-bound and non-college-bound--and should include all major professional and non-professional occupational areas. They should acquaint students with the basic requirements of various occupations and, to the extent

possible, provide an opportunity to try some skills and abilities required by various occupations.

Guidance and counseling should be available for all students to assist each one in identifying individual interests and aptitudes. At the junior high school level, it is particularly important to identify students who may be unable to progress normally through the high school curriculum. Specialized vocational programs need to be developed for these students so that they, too, can become economically independent and made a maximum contribution to society.

Late senior high school. Vocational education at the late senior high school level (grades eleven and twelve) must serve two distinct groups of students: (1) those who plan to enter the labor market immediately upon leaving high school, and (2) those who plan to continue their vocational education in a post-secondary less-than-baccalaureate-degree program.

As shown earlier in this chapter, approximately seventy-five percent of all students starting the ninth grade in Michigan terminate their formal education at or before high school graduation. This large group should receive adequate specific training to enable them to enter one of several possible occupations within a given field. For instance, in the metal processing and fabricating field, a student could obtain sufficient

skill to enable him to secure a job as a beginning welder or machine operator. This relatively broad training has been referred to as training for a "cluster" of occupations. In the report of the Panel of Consultants on Vocational Education support was given to this concept:

> Basic vocational education should be designed to provide education in skills and concepts common to clusters of closely related occupations. The curriculum should be derived from analyses of the common features of the occupations included. These students should receive specialized or more advanced vocational training later in post-high-school programs, apprenticeships, or on-the-job experiences.[1]

A report issued by the Rockefeller Brothers Fund pointed out the advantages an individual would have if his vocational preparation is based on the cluster concept:

> In this day of technologies that become antiquated overnight, it is hazardous to predict a favorable future for any narrow occupational category. There will be economic advantage to the individual in acquiring the kind of fundamental training that will enable him to move back and forth over several occupational categories. Individuals so trained will find a market for their talents under most circumstances. Individuals more narrowly trained will be at the mercy of circumstances.[2]

---

[1]U.S., Department of Health, Education, and Welfare, Education for a Changing World of Work, op. cit., p. 227.

[2]Rockefeller Brothers Fund, The Pursuit of Excellence: Education and the Future America, Panel Report V of the Special Studies Project of the Rockefeller Brothers Fund, Inc. (New York: Doubleday & Co., 1958), p. 10.

Baer and Roebson have even suggested that the cluster concept has application at the post-secondary level:

> Since most young people have a broad range of interests and capabilities, appropriate initial choices are facilitated by a knowledge of families of occupations. It is becoming more generally recognized that early training, even at the college level, should be broad enough to give the student the background for a group of related occupations. Thus he is not driven into a specific occupational choice before his interests have matured sufficiently for him to choose a field of work. When he is ready to enter the job market, his chances of successful placement are increased if he is prepared to begin at any one of several jobs in a given field of work.[1]

Maley and Frantz have pointed out that a large percentage of high school students are not mature enough to make firm decisions regarding their life's work in terms of identifying a specific occupation. They also remind us that the most reliable interest inventories are those that identify families or broad areas of occupations.[2]

It would appear then, at least at the secondary level, that vocational education should be based on training for relatively large groups of occupations. Training for specific jobs probably does not belong in

---

[1]Max Baer and Edward C. Roebson, Occupational Information (Chicago: Science Research Associates, 1964), p. 167.

[2]Donald Maley and Nevin R. Frantz, An Investigation and Development of the "Cluster Concept" as a Program in Vocational Education at the Secondary Level (College Park, Maryland: University of Maryland, 1965), p. 3. (Mimeographed.)

the high school except perhaps for those relatively few individuals whose capabilities are so limited that they do not have the capacity for broad training.

Several school districts have already put into practice the cluster concept at the high school level. Among these are the Detroit, Michigan, Public Schools[1] and the Gary, Indiana, Public Schools.[2]

Students planning to continue beyond high school in a post-secondary vocational or technical program should develop the basic skills, abilities, and understandings necessary to successfully complete the more specialized post-secondary educational program. The cluster approach in high school, together with the general and academic program to support advanced technical training, can provide this basic instruction as preparation for the post-secondary program.

Harris and Yencso conducted a study of technical education in Michigan's community colleges and the preparation high school students received for community college technician programs. They found that there is a definite need for special preparatory programs in the

---

[1]Carl H. Turnquist, "Galaxy Approach to Education for the World of Work", School Shop, XXV, No. 3, (November, 1965), p. 25-27.

[2]Louis A McElroy, Planning for Vocational-Technical Education Around a Ten Cluster System (Gary, Indiana: Gary Public Schools, 1966), (Mimeographed.)

high school for those students who will enroll in community college technician training programs. One of their major recommendations was:

> Initiate pre-technical, community college-preparatory curriculums in high schools throughout the state, with the needed content in mathematics, the physical sciences, English, drafting, and basic shop experiences, to prepare students for entry into community college technical programs.[1]

The "basic shop experiences" Harris and Yenoso recommend could be provided with a cluster approach to vocational education in the high school. They also stress that changes need to be made in mathematics and physical science courses for pre-technical students:

> What is now needed is a development of mathematics and physical science sequences in the high school designed to suit the abilities and interests of middle level students--courses with stress on applications to future occupations within the "middle manpower" spectrum.
>
> The idea that specially structured mathematics and science sequences in high school should be offered for students of middle-level abilities is just as defensible as the idea that specialized courses should be offered for the very superior students. It is well to remember that "middle level" students comprise 50 percent of an age group, while superior students make up less than 25 percent of the age group.[2]

The American Institutes for Research, in proposing a curriculum for the Quincy, Massachusetts, vocational-technical school, aptly summarizes a desirable curriculum

---

[1]Norman C. Harris and William R. Yenoso, Technical Education in Michigan Community Colleges (Ann Arbor, Michigan: University of Michigan, 1965), p. 78.

[2]Ibid., p. 9.

for vocational education in the high school. This organization proposed that vocational guidance and occupational information be available to students throughout the secondary years. A basic technology will be taught (cluster approach) during the four years of high school and this will be interwoven with specific vocational instruction to provide specific skills sufficient for those who will not continue in a post-secondary vocational program. The plan also provides for further specialization in grades thirteen and fourteen for an increasing number of students.[1]

It is at the late senior high school level that the area concept can be effectively employed to provide the broadly-based training which would meet the divergent needs of both groups of students--those who will seek employment immediately after leaving high school and those who will continue their education.

Both the early and late senior high school programs should be flexible enough that a student can advance at his own rate toward the goal of making an occupational choice and preparing for that occupation.

---

[1]American Institutes for Research, Project ABLE: Development and Evaluation of an Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School, Third Quarterly Report (Pittsburgh: American Institutes for Research, 1965), p. 10-18.

Community college and other post-secondary institutions. One of the stated purposes of the community college is to provide occupational preparation programs. The Michigan Council of Community College Administrators has stated that community colleges in Michigan have the responsibility for providing a wide variety of vocational-technical education programs.[1] Enrollment data for these programs are given later in this chapter.

Building upon the base provided at the secondary level, post-secondary institutions should provide the more specialized vocational preparation needed for a changing technology. Programs should be available for full-time students, persons in the labor force who wish to secure job upgrading or retraining programs, and unemployed workers who need to be retrained.

In addition to the community colleges, some of the four-year colleges and universities offer less-than-baccalaureate-degree programs. The offerings of all these institutions should be coordinated to assure meeting labor market needs and to avoid undesirable duplication.

---

[1]Michigan Council of Community College Administrators, A Policy Statement (Lansing: Michigan Council of Community College Administrators, 1963), p. 2.

Resources Needed for an Adequate Vocational Education Program

In keeping with a democratic philosophy of education, each student should have available to him the opportunity to secure the kind of vocational education which will best prepare him for his chosen occupation. Theoretically, this means that every resident of the state should have the opportunity to prepare for any occupation he might choose and that such training be readily available. To the extent that it is practical to achieve this objective, vocational education programs should be defined in terms of the scope of offerings needed. A determination should than be made of the number of students needed to justify constructing and operating the facilities required to provide needed curricula. Decisions can than be reached regarding the type and size of organization required to provide sufficient numbers of students.

The cost of adequate vocational education programs. As part of a state-wide effort to develop adequate vocational education programs, a study was recently conducted in Muskegon County, Michigan. This study determined the vocational education needs of the area and made recommendations for meeting these needs.[1] As a

---

[1]James TenBrink, Meeting Employment Needs (Muskegon, Michigan: Muskegon Area Intermediate School District, 1965).

result of this study, plans have been developed for constructing and operating an area vocational education center. The proposed facility would cost $3,940,075 and would have a capacity of 587 students and could enroll up to 1,000 students on a half-time basis. The programs to be offered are built around ten occupational clusters involving thirty-eight sub-groups of occupations.[1] This center is designed primarily to serve secondary students.

Adler surveyed over one hundred area vocational-technical centers in the United States. He found that these units offered programs in from six to forty-two occupational areas with an average of twenty. The capital investment varied from $1,000,000 to $4,500,000 with an average of $2,325,000.[2]

The Michigan Department of Education has described and determined the cost of a comprehensive vocational education program at the secondary level. Such a program would contain an instructional program encompassing a minimum of twenty occupational areas. The instruction would provide both exploratory experiences and basic

---

[1]James TenBrink and Harold S. Fisher, Proposed Muskegon Area Vocational Center (Muskegon, Michigan: Muskegon Area Intermediate School District, 1966).

[2]Gerald Adler, Survey of Over 100 Area Vocational-Technical Centers Operating to Serve High School Students (Grand Rapids, Michigan: Kent County Intermediate School District, 1966), (Mimeographed.)

occupational training which could be used by the student either for initial labor market entry or as a foundation for additional post-secondary vocational education.

In order to justify the capital expenditures necessary to provide a program of this scope, the Department of Education suggested that a minimum of 500 students should be enrolled. The cost of facilities and instructional equipment was estimated at a minimum of $1,022,994. The proposed facility was to be used to provide twenty different occupational training programs. It should be noted that this facility was planned only for boys and that normally vocational education programs are planned for both boys and girls in the same facility.[1]

Post-secondary vocational-technical facilities are considerably more expensive than those needed for secondary programs due to their more specialized nature. Roney has estimated that a complete engineering technology program at the post-secondary level would cost approximately $3,300,000 for buildings and instructional equipment.[2] Programs of this scope should serve relatively large populations in order to enroll sufficient numbers of students to justify the expenditures required.

---

[1]Lynn M. Bartlett, Michigan Superintendent of Public Instruction, Letter to selected members of the Michigan Legislature, October 7, 1964.

[2]M.W. Roney, Material presented at the Third Summer Institute for Administrators and Supervisors of Technical Education held at Stillwater, Oklahoma, June 7-19, 1965.

Further evidence of the high cost of adequate post-secondary programs is provided by Macomb County Community College in Michigan. This institution has begun construction of a $3,371,692 vocational-technical education complex which will provide a broad industrial technology program. Macomb County Community College serves a population of approximately one-half million persons.[1]

On the basis of the above information it is concluded that a capital investment in the neighborhood of $2,000,000 is required for adequate secondary area vocational programs and over $3,000,000 for post-secondary programs.

Number of students needed. How many students are needed in order to make sufficient use of facilities of this scope? A broad vocational education program should be available to all residents of the state. In order to justify the expenditures required for such a program, sufficient enrollment will be necessary to make adequate use of needed facilities.

Burns conducted a study in 1964 in which he surveyed area programs throughout the nation. He obtained information from all states which had area vocational education programs in operation. In these forty-six states he

---

[1]Michigan Department of Education, Division of Vocational Education, Unpublished records.

received returns from 353 of the 466 local directors of area vocational programs. This represented a 75.8 percent return.[1]

He found that the median population of high school age persons (14-18 years of age) served by these area programs was 6,834 and the median number of persons in this age group considered desirable by the directors was 7,166.[2]

It was noted that the Muskegon facility is being planned to serve 1,000 students on a half-time basis.

Adler found in his survey that from ten to thirty percent of the tenth, eleventh, and twelfth grade students attend area vocational centers. The average enrollment was fifteen percent.[3]

To secure enrollments of 1,000, then, would require that the attendance area include approximately 6,666 high school students. This figure compares favorably with Burn's findings.

At the post-secondary level, the Michigan Department of Education is suggesting a minimum projected enrollment of 1,000 students as a basis for recommending approval of new community college districts to the State Board of

---

[1]Richard Lyons Burns, "Factors Governing the Establishment and Operation of Area Vocational-Technical Schools and Programs in the United States with Application to Missouri" (Unpublished Doctoral Dissertation, University of Missouri, Columbia, 1964), p. 11.

[2]Ibid., p. 104-106.

[3]Adler, op. cit.

Education. This figure is based on the assumption that approximately one-half of the enrollment (500 students) will enroll in vocational-technical programs. The Bureau of Higher Education suggests that these minimum enrollments are necessary for a quality community college program.[1]

Inadequacy of Existing Vocational Education Programs

Inadequate enrollments. We have already shown that approximately seventy-five percent of those students entering the ninth grade will not continue their education beyond high school and thus must receive occupational training sufficient for entry into the labor market while they are still in high school. Table 2, however, shows that only 87,408 high school youths are enrolled in vocational training programs which are supported by state-federal vocational education funds as compared to a total high school enrollment of over 480,000. It is recognized that not all vocational programs in the high schools are reimbursed from such monies, however, with perhaps the exception of office occupations it is safe to assume that the great majority of truly vocational programs are included in these figures.

It is evident, then, that present programs are not serving an adequate number of youth. While there are

---

[1]Interview with John Porter, Associate Superintendent for Higher Education, Michigan Department of Education, January 17, 1966.

TABLE 2

MICHIGAN VOCATIONAL EDUCATION
ENROLLMENTS IN REIMBURSED PROGRAMS,
1964-65

Service	In-School		Out-of-School	Total
	High School	Post-High School	Youth and Adults	
Agriculture	13,130		1,601	14,731
Cooperative:				
Dist.	5,092	344		5,436
Office	5,432	372		5,804
T & I	3,438	572		4,010
Dist. (Adult)			16,922	16,922
Home Economics	55,443		17,624	73,067
T & I	4,304		46,673	50,977
Practical Nurse and Other Health Occupations	166	79	2,515	2,760
Technical Programs	403	2,544	2,793	5,740
Totals	87,408	3,911	88,128	179,447

Source: Michigan Department of Education, unpublished records.

other reasons such as parental and student aspirations which affect enrollment in vocational programs, undoubtedly the scope of offerings and their quality are major reasons for these relatively low enrollments.

The population in the 15-19 age group would include virtually all high school and full-time community college students enrolled in vocational-technical programs. Appendix C shows the number of youth by counties aged 15-19 as projected for the years 1970 and 1980. Table 2 indicates only 3,911 full-time post-high school students enrolled in reimbursed vocational programs in 1964-65. Added to high school enrollments, the total becomes 91,319 full-time students enrolled in vocational training programs as compared with a total population in this age group of 851,189 predicted for 1970. Again, it is evident that current programs are not meeting obvious needs.

Inadequate scope of programs. To what extent are the types of program offerings sufficient to meet projected labor market needs? Tables 2 and 3 do not include information about specific occupations; nevertheless, the broad occupational categories indicate some serious weaknesses. Appendix D shows projected employment by occupation for Michigan from 1960 to 1980. These data indicate that certain occupational areas will become

TABLE 3

REIMBURSED VOCATIONAL EDUCATION ENROLLMENTS
IN MICHIGAN COMMUNITY COLLEGES
BY OCCUPATIONAL AREA, 1964-65

College	ENROLLMENT						
	Agri-culture	Distri-butive	Office	Indus-trial	Practical Nurse & Other Health Occupations	Tech-nician	Total
Alpena Community College				9		94	103
Bay DeNoc Community College				89			89
Delta Community College		21	61	474	92		648
Flint Community Jr. College		66	62	141	89	978	1,336
Gogebic Community College							0
Grand Rapids Community College		17	30		149	99	295
Henry Ford Community College		1	42	7,815		201	8,059
Highland Park Jr. College					266		266
Jackson Community College					85	135	220
Kellogg Community College					141	263	404

Table 3 - Continued

College	ENROLLMENT						
	Agri-culture	Distri-butive	Office	Indus-trial	Practical Nurse & Other Health Occupations	Tech-nician	Total
Lake Michigan Community College					29	278	307
Macomb Community College				2,242	4		2,246
Muskegon Community College		38	47	481	82	733	1,381
Lansing Community College		47	18	1,288	220	212	1,785
North Central Michigan College							0
Northwestern Michigan College					82		82
Port Huron Jr. College				99	40	185	324
Schoolcraft Community College	35	4	11	156	27	340	573
TOTALS	35	194	271	12,794	1,306	3,418	18,118

Source: Michigan Department of Education, unpublished records.

increasingly important in relation to employment opportunities in the years ahead. Included in this list are health, clerical, service and technical occupations. Tables 2 and 3 indicate that these are the areas where enrollments are lowest. Whatever the reason, then, the present system of vocational education is not providing trained persons in sufficient numbers for many of the fastest growing occupational areas. Part of the reason, no doubt, lies in the fact that vocational programs are conducted by a large number of small administrative units in Michigan which are unable to provide broad programs.

Summary

Vocational education is a recognized function of secondary education and provides the means for youth to develop salable skills, understandings, and attitudes necessary to make the worker an intelligent and productive participant in the world of work.

Vocational education is needed by: (1) youth enrolled in high school who will either drop out before graduation or will terminate their formal education with high school graduation, (2) youth enrolled in post-secondary educational institutions who will not attain a baccalaureate or higher degree, and (3) employed or unemployed workers who require job upgrading or retraining experience in order to achieve stability or advancement in employment.

Enrollments in high school and post-high school vocational education programs in Michigan are inadequate to meet obvious needs. The scope of programs is likewise inadequate to meet labor market needs.

Each educational level--the elementary school, the junior high school, the high school, and the community college and university--must play a unique role in preparing the individual for the world of work.

The vocational education program needed in Michigan is one in which the student participates in exploratory experiences of increasing complexity in the elementary, junior high, and early high school grades, followed by one or two years of education in the basic skills and knowledge underlying his chosen occupational field and then specialization at a post-secondary institution. The high school program should be kept flexible enough so that as the student matures he can explore and develop his interests and abilities with the objective of making an occupational choice and preparing himself for that occupation. For many students this choice will not be made until they are involved in a program of post-secondary education.

However, at the present time, a large percentage of high school students require sufficient occupational skill development before they leave high school to enable them to succussfully compete in the labor market.

Adequate vocational education programs are costly. Capital outlay requirements for quality secondary programs approach $2,000,000 and for post-secondary programs $3,000,000. To justify and efficiently utilize such facilities will require enrollments in the neighborhood of 1,000 students.

CHAPTER III

THE DEVELOPMENT OF AREA VOCATIONAL EDUCATION PROGRAMS

The Development of Vocational Education in the United States

Colonial America. Education in the Colonies was generally of two types. Children of the better classes received their education through private tutors or the private dame schools, the Latin grammer schools, and the private academies. Children of the poor and those who were orphaned or the offspring of indentured servants were bound out as apprentices for their education.[1]

Vocational education in Colonial America was almost exclusively either on-the-job training or apprenticeship. According to Bennett, apprenticeship in the Colonies retained the essential characteristics of apprenticeship programs in England and became the most fundamental educational institution of that period.[2]

Monroe, in describing the apprentice education in the Colonies, states that it was the basic plan of education in all the Colonies. Except for the wealthy,

---

[1]Merle Curti, The Social Ideas of American Educators (New York: Charles Scribner's Sons, 1935), p. 21-23.

[2]Charles Alpheus Bennett, History of the Manual and Industrial Education up to 1870 (Peoria, Illinois: Chas. A. Bennett Co., 1926), p. 267-268.

all children were expected to receive a training in some vocation. The apprentice was bound to serve his master without pay for a period of years. In return the master would teach him the handicraft or trade or vocation and be totally responsible for his care. The master was also required to see that the apprentice was taught to read and write.[1]

Education in the Colonies was patterned a great deal after that found in England. The Colonial education system favored the perpetuation of class distinctions. Benjamin Franklin and Thomas Jefferson both advocated reforms in this system. According to Curti, Franklin strongly believed that the best education was one which was practical and scientific. He did not believe in training the young in the "frivolous arts and graces" and "dead tongues" and other characteristics of the aristocratic element of his time.[2]

One of Franklin's most notable educational writings was his proposal for an academy which was contained in an essay, Proposals Relating to the Education of Youth in Pennsylvania. The purpose of this academy, as

---

[1]Paul Monroe, Founding of the American Public School System (New York: The MacMillan Co., 1940), p. 34-35.

[2]Curti., op. cit., p. 35.

envisioned by Franklin, was to provide a practical education for the emerging middle class of his time.[1]

Perhaps Franklin's greatest educational contribution was to have effected a movement which resulted in the creation of a new type of secondary school and college.[2] In a proposal to the Trustees of the Philadelphia Academy, Franklin outlined a program of secondary education which included mathematics, accounting, drawing, and mechanics.[3]

Jefferson went even further than Franklin in advocating the breakdown of class barriers to education:

> . . .the framer of the Declaration of Independence, inspired by hostility to an entrenched aristocracy and by faith in universal education as a necessary instrument of democratic republicanism, advocated a system of schools and higher institutions which went considerably farther than Franklin's ideas toward breaking down class barriers in education. For all their shortcomings when measured by twentieth-century concepts of democracy, Jefferson's proposals were in their day truly revolutionary.[4]

Jefferson's "Virginia Plan" of education would have established a single school system as a means of closing

---

[1]Thomas Woody, Educational Views of Benjamin Franklin (New York: McGraw-Hill Book Co., 1931), p. 149-181. Woody has edited the educational writings of Franklin and reproduces this essay in his book.

[2]Ibid., p. 115.

[3]Ibid., p. 129.

[4]Curti., op. cit., p. 40-41.

the gap between rich and poor. Under this plan all youngsters would have had an opportunity (theorically) to obtain all the education of which they were capable.[1]

In a letter to Peter Carr in 1814, Jefferson outlined the curriculum for his school system. It contained among other subjects agriculture, architecture, and "technical philosophy". He advocated that training in various vocational fields be offered through adult evening schools.[2] In his letter to Carr, Jefferson explains his "technical philosophy":

> And to that of technical philosophy will come the mariner, carpenter, shipwright, pumpmaker, clockmaker, machinist, optician, metallurgist, founder, cutler, druggist, brewer, vintner, distiller, dyer, painter, bleacher, soapmaker, tanner, powdermaker, saltmaker, glassmaker, to learn as much as shall be necessary to pursue their art understandingly, of the sciences of geometry, mechanics, statics, hydrostatics, hydraulics, hydrodynamics, navigation, astronomy, geography, optics, pneumatics, physics, chemistry, natural history, botany, mineralogy and pharmacy.[3]

The efforts of Franklin and Jefferson represent beginning efforts for providing vocational education through a system of public schools available to all.

Development during the Industrial Revolution. The rise of the factory system during the 19th century

---

[1]Saul K. Padover, A Jefferson Profile (letter from Thomas Jefferson to John Adams, October 28, 1813) (New York: The John Day Co., 1956), p. 220.

[2]Ibid., (letter from Thomas Jefferson to Peter Carr), p. 237-243.

[3]Ibid., p. 241-242.

brought about the need for occupational instruction in the United States. During this period manual labor schools, industrial schools for orphans and poor children, mechanics' institutes, lyceums, and manual training high schools were developed.

The manual training movement in the United States was inspired by a Swiss school established by Philip Emanuel von Fellenberg in 1799. Fellenberg had successfully established a farm and trade school for boys as well as a school for girls. This institution provided occupational training in addition to general education.[1]

At the Philadelphia Exposition of 1876, American educators learned that since 1868 the Russians had been utilizing a method of class-instruction in the use of tools at the Imperial Technical School of Moscow. The Russian exhibit made a profound impression on those in this country who were involved in the manual training movement.[2]

As a result of these influences, manual training schools were established in the United States during the 19th century. These schools combined general education and training in the use of tools and a knowledge of industry in much the same way as present-day industrial arts programs.

---

[1]Bennett, op. cit., p. 128-156.

[2]C.M. Woodward, The Manual Training School (Boston: D.C. Heath and Co., 1887), p. 2-4.

Representative manual training schools were the Maine Wesleyan Seminary founded in 1825 and using a manual labor system of the Fellenberg type; the Oneida Institute of Science and Industry at Whitesborough, New York opened in 1827; and the Manual Labor Academy of Pennsylvania at Germantown in 1828. Other schools were established in Tennessee, Kentucky, Massachusetts, Maine, Delaware and Ohio.[1]

Industrial schools were established for orphans and poor children in several locations during the 19th century. Girard College in Philadelphia opened in 1848 and enrolled students as young as ten years old. Provision was made for instruction in several industrial pursuits.[2] Hampton Normal and Industrial Institute for Negroes was established in 1868 at Hampton, Virginia.[3] Perhaps the most famous of Hampton's graduates is Booker T. Washington who describes the school and his life there in his autobiography.[4]

---

[1]Bennett, op. cit., p. 182-190.

[2]Ibid., p. 242-243.

[3]Ibid., p. 244-245.

[4]Booker T. Washington, Up From Slavery (Garden City, N.Y.: Doubleday & Co., 1900), Chapter III.

Another type of institution, the Mechanic's Institute, was established in this country during the 1800's. The Franklin Institute, Philadelphia, was established initially in 1820 to provide lectures and other services to mechanics. In 1826 a high school was established as part of the Institute which combined general studies with vocational preparation.[1] Other Mechanic's Institutes included the Maryland Institute at Baltimore founded in 1825, and one organized at Boston in 1827.[2] The mechanic's institutes provided evening classes for workers.[3]

A plan to provide lectures and discourses for farmers and industrial workers, known as the Lyceum Movement, was popular during the first half of the 19th century in some parts of the country. At one time there were between 900 and 1000 lyceums organized in the United States.[4]

The manual training movement mentioned above, grew into the development of manual training high schools. One of the most famous of these was the St. Louis Manual Training School established in 1879. Woodward states that the purpose of the school was to provide instruction

---

[1]Bennett, op. cit., p. 319-321.

[2]Ibid., p. 324.

[3]Hawkins, Prosser, and Wright, op. cit., p. 11.

[4]Bennett, op. cit., p. 325-329.

in mathematics, drawing, English, and various vocational courses. Students divided their time equally between mental and manual exercises.[1] Similar schools were established throughout the country.[2]

Manual training soon spread from the specialized high schools established for that purpose to the general high schools. This was part of the movement which eventuated in the comprehensive high school.[3]

The vocational education movement. The report of the Douglas Commission in 1906 to the Massachusetts Legislature gave impetus to the vocational education movement. The work of this Commission resulted in legislation establishing the first state system of free industrial education.[4]

Four other state systems of vocational education soon followed the example set by Massachusetts, namely, New Jersey in 1906, New York in 1909, Connecticut in 1909, and Wisconsin in 1911. A number of other states subsequently enacted legislation for vocational education systems.[5]

---

[1]Woodward, op. cit., p. 5.

[2]Bennett, op. cit., Chapter X.

[3]Ibid., p. 396.

[4]Hawkins, Prosser, and Wright, op. cit., p. 32-35.

[5]Ibid., p. 39-60.

An important event in the development of vocational education programs was the establishment in 1906 of the National Society for the Promotion of Industrial Education. This organization was influential in bringing about the passage of federal legislation for vocational education.[1]

In 1914 Congress created the Commission on National Aid to Vocational Education. The Commission completed its work in the remarkably short time of sixty days and submitted a report to Congress. The work of the Commission resulted in passage of the legislation which became for forty-five years the cornerstone of federal support for vocational education.[2]

Federal participation. On February 23, 1917 the Smith-Hughes Act was signed into law by President Woodrow Wilson. This Act authorized continuing annual grants to the states for the promotion and development of vocational education in agriculture, trade and industiral education, and home economics. The Act provided approximately $7.2 million annually.[3]

---

[1] Ibid., p. 63-74.

[2] Ibid., p. 80-89.

[3] U.S. Congress, Vocational Education Act of 1917, op. cit.

Several short-term acts were subsequently enacted by Congress to provide additional funds. These included the George-Reed Act in 1929,[1] the George-Ellzey Act in 1934,[2] and the George-Deen Act in 1936.[3] In addition to programs already covered by federal legislation, the George-Deen Act provided funds for support of education in the distributive occupations.

The George-Barden Act, which was technically an amendment to the George-Deen Act, was passed in 1946.[4] This Act greatly increased the amount of financial support and was later amended to include provision for training in practical nursing[5] and the fisheries occupations.[6]

Title VIII of the National Defense Education Act of 1958 provided funds in support of programs to train highly skilled technicians in recognized occupations necessary to the national defense.[7]

---

[1]U.S. Congress, George-Reed Act. Public Law 702, 70th Congress, 1929.

[2]U.S. Congress, George-Ellzey Act. Public Law 245, 73rd Congress, 1934.

[3]U.S. Congress, George-Deen Act. Public Law 673, 74th Congress, 1936.

[4]U.S. Congress, George-Barden Act. Public Law 586, 79th Congress, 1946.

[5]U.S. Congress, The Health Amendments Act. Public Law 911, 84th Congress, 1956.

[6]U.S. Congress, Public Law 1027, 84th Congress, 1956.

[7]U.S. Congress, National Defense Education Act, op. cit.

The Area Redevelopment Act[1] of 1961 and the Manpower Development and Training Act[2] passed in 1962 contained provisions for retraining unemployed workers.

The most recent federal vocational education legislation was the Vocational Education Act of 1963. This Act is also the most far-reaching in terms of support and scope. It provides funds for training in any non-professional occupation and makes provision for the construction of area vocational education schools. The 1963 Act was designed to provide a great deal of program flexibility in the development of vocational education throughout the country. In addition to these features, the Act authorizes the expenditure of federal funds for establishing residential vocational education schools and the payment of wages for vocational education students participating in work-study programs.[3]

The Development of Area Vocational Education Programs in the United States

Early developments. The development of vocational schools in large cities represented a type of area school

---

[1]U.S. Congress, Area Redevelopment Act, op. cit.

[2]U.S. Congress, Manpower Development and Training Act, op. cit.

[3]U.S. Congress, The Vocational Education Act of 1963, op. cit.

serving students from the entire city. Early schools of this type included the founding of New York Trade School in 1881 and Rochester Mechanic's Institute in 1885. Both of these schools were organized with private funds.[1]

Early public city vocational schools included the Columbus Trades School in 1903, Philadelphia Trades School in 1906, and Milwaukee School of Trades in 1906-07.[2] As indicated in the next section, the first such school in Michigan was the Muskegon Hackley Manual Training School in 1897.[3]

Connecticut established a state system of vocational-technical schools in 1910. The legislation for this system resulted from the efforts of a commission appointed by the governor in 1903 to study industrial and technical education needs. O'Brien quotes from the commission's 1905 report to the Connecticut General Assembly:

> Your commission has been moved to advocate the assumption by the state of a part of the burden of the establishment and maintenance of trade schools in order that the state may justly insist

---

[1]Lewis F. Anderson, History of Manual and Industrial School Education (New York: D. Appleton, 1926), p. 212.

[2]Ibid., p. 216.

[3]Frank W. Dalton, The Development of Industrial Education in Michigan (Ann Arbor, Michigan: Michigan Industrial Education Society, 1940), p. 84.

> that instruction be free to all her sons. If the schools were maintained by the towns exclusively it is fair to suppose that the advantages would be enjoyed only by the residents of the larger towns and this would be a calamity.[1]

These Connecticut schools are open to all residents of the state and are thus truly area schools. Thirteen of these schools are in operation and the names have been changed from "State Trade Schools" to "Vocational-Technical Schools".

An early type of area vocational program was the use of circuit teachers of vocational subjects by the state of Maine. These teachers spent four to six weeks in a school and carried their specialized equipment with them. They would provide intensive "unit courses" of four to six weeks in length.[2]

American Vocational Association efforts. The Committee on Research and Publications of the American Vocational Association has published three bulletins which deal with the development of area vocational programs. The first of these was the result of two years of work by the Committee and presented arguments for larger administrative units for vocational education.

---

[1]Emmet O'Brien, "Development of Vocational Technical Schools in Connecticut", in Harold T. Smith, Education and Training for the World of Work-A Vocational Education Program for the State of Michigan (Kalamazoo, Michigan: The W.E. Upjohn Institute for Employment Research, 1963), p. 49.

[2]J.H. Moyer, "Circuit and Part-Time Teachers", Economical Enrichment of the Small Secondary-School Curriculum (Washington: National Education Association, Department of Rural Education, 1934), p. 29.

> The pressure behind the idea of the larger administrative units, the so-called "area" vocational school, is largely one of providing for all youth and adults ways and means of acquiring occupational competency in occupations of their choice. Since small isolated schools, or schools that are situated favorably for only a few occupations, and most local schools in some respects, are unable either to have vocational opportunities at all, or to have any extended range of choice, the problem of the larger unit has been recognized as necessary to the equalization of opportunities in vocational education. As here used, the larger unit school is designed to serve a group of communities, an entire county, a group of counties, or a distinctive area or section which might well include portions of two or more adjoining states. It does not preclude any existing school from becoming a special school provided it can provide the vocational opportunities contemplated for youth and adults.[1]

In 1949 this Committee published another bulletin dealing with area vocational programs. This bulletin provides guidelines for the organizing of area vocational education programs and discusses possibilities for financing them. Alternative administrative patterns are also discussed.[2]

The most recent area program bulletin by the American Vocational Association was published in 1959. This bulletin again provides guidelines for the establishment of area programs and updates the 1949 bulletin.

---

[1]American Vocational Association, Committee on Research and Publications, An Enlarged Program of Vocational Education with Special Reference to Larger Administrative Units (Washington: American Vocational Association, 1943), p. 3.

[2]American Vocational Association, Committee on Research and Publications, Service Areas for Vocational Schools (Washington: American Vocational Association, 1949).

> The purpose of this publication is to let you know how your school system--be it in a city, a small town, or a rural area--can provide for those educational services which will develop vocational competencies in the youth of your community. Not every community or school district can afford to operate a separate vocational school program.[1]

Federal government activities. Title VIII of the National Defense Education Act of 1958 provides for area programs for the purpose of training highly skilled technicians in occupations requiring scientific or technical knowledge.[2]

Arnold, in his analysis of the Title of the Act, pointed out that programs developed under its provisions must be area in nature.

> The program must be an area vocational education program, that is, a program of vocational instruction consisting of one or more less-than-college-grade courses conducted under public supervision and control on an organized systematic class basis, available to residents of the State or an area thereof designated by the State Board.[3]

While this legislation was restricted to highly skilled technician training, it did provide for an expansion throughout the country of programs on an area basis and thus served to encourage area vocational programs.

---

[1]American Vocational Association, Research and Publications Committee, Area Vocational Education Programs (Washington: American Vocational Association, 1959), p. 3.

[2]U.S. Congress, National Defense Education Act of 1958, op. cit., Section 802.

[3]Walter M. Arnold, "Area Vocational Education Programs" School Life, Vol. 42, No. 5 (January, 1960), p. 11

In 1961, the United States Office of Education published a provocative document designed to stimulate widespread discussion and thought regarding new directions needed for the vocational education programs of the nation. This publication, Vocational Education in the Next Decade--Proposals for Discussion, contains a section entitled "Vocational Education on an Area Basis". The concept of area vocational programs is extensively treated in this section. Two of the recommendations of this section are:

> Vocational education should be further extended so it may serve effectively on an area basis. Funds should be made available immediately to assist in the stimulation of these programs and for school plants and other necessary expenses.
>
> During the past four decades, programs of vocational education have been organized and operated by a variety of school administrative units. Many of the newer proposals will require administrative units larger than the usual school districts. Where effective programs require this, special legislation should be secured.[1]

To a certain extent, the enactment of the Vocational Education Act of 1963 and its implementation in the various states has brought about the realization of these two recommendations.

---

[1]U.S., Department of Health, Education, and Welfare, Vocational Education in the Next Decade. . ., op. cit., p. 72.

The Act of 1963 has had a definite stimulatory effect and has served to develop interest regarding the area vocational education concept. Key wording of significance to area vocational programs is contained in the Act's declaration of purpose:

> . . .to authorize Federal grants to States to assist them to. . .develop. . .programs of vocational education. . .so that persons of all ages in all communities of the State. . .will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.[1]

Vocational education for "persons of all ages in all communities" is for the first time a stated goal in federal vocational education legislation. There is little doubt that Congress recognized that this goal can only be achieved through the provision of vocational programs on an area basis in most communities of the country.

One of the purposes for which funds may be used under the provisions of this Act is the construction of area vocational education school facilities. At least 33 1/3 percent of each state's allotment through fiscal year 1968 and twenty-five percent for each subsequent

---

[1]U.S., Congress, Vocational Education Act of 1963, op. cit., Section 1.

year must be spent for the construction of area vocational education school facilities or for post-secondary programs enrolling full-time students.[1] The interest of the Congress in encouraging area vocational education programs seems clear.

The definition given in the 1963 Act for the term "area vocational education school" is particularly important in interpreting the intent of the Act as it related to vocational programs:

> The term "area vocational education school" means--
> (A) a specialized high school used exclusively or principally for the provision of vocational education to persons who are available for full-time study in preparation for entering the labor market, or
>
> (B) the department of a high school exclusively or principally used for providing vocational education in no less than five different occupational fields to persons who are available for full-time study in preparation for entering the labor market, or
>
> (C) a technical or vocational school used exclusively or principally for the provision of vocational education to persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market, or
>
> (D) the department or division of a junior college or community college or university which provides vocational education in no less than five different occupational fields, under the supervision of the State Board, leading to immediate employment but not leading to a baccalaureate degree.[2]

---

[1] Ibid., Section 4.

[2] Ibid., Section 8.

Relationship of school district consolidation. The development of area vocational programs is one way in which sufficient resources can be gathered together to support a quality vocational education program which is broad in scope. In this sense, school district consolidation supports the area vocational education program concept by combining resources.

In 1932 there was a total of 127,244 school districts in the United States.[1] By 1957 this number had been reduced to 66,472.[2]

Similar progress has taken place in Michigan. In 1910 there were 7,333 districts and by February, 1966 there were 1,123. Due to recent state legislation, within a year this number is expected to be reduced to about 500 districts.[3]

It is doubtful whether even 500 districts in Michigan would provide sufficient resources on the part of each to justify broad vocational education programs.

Area Program Development in Michigan

Early developments. The development of large city manual or vocational training schools in the United States

---

[1]Walter S. Deffenbaugh and Timon Covert, School Administration Units, U.S. Dept. of Interior, Office of Education (Washington: U.S. Government Printing Office, 1933) as cited in C.O. Fitzwater, U.S. Dept. HEW, Office of Education, School District Reorganization (Washington: U.S. Government Printing Office, 1957), p. 8.

[2]Ibid., p. 8.

[3]Michigan, Department of Education, unpublished records.

did provide vocational programs on an area basis for these cities. Such schools usually served the entire city and in many cases this involved more than one regular high school. So, in this sense, they were area vocational schools.

A number of separate vocational schools were established in Michigan's larger cities. Dalton reports that with its establishment in 1897, the Muskegon Hackley Manual Training School was the first of its kind in Michigan.[1] Other early vocational schools in the state were: Detroit's Cass Technical High School, 1910; Saginaw Arthur Hill Trade School, 1913; Grand Rapids Vocational School (name was changed in 1929 to George A. Davis Vocational and Technical High School), 1920; Jackson Technical School, 1928; and Detroit's Wilbur Wright Cooperative High School, 1928.[2]

It is especially interesting to note that Michigan had a law permitting the establishing of area vocational schools as early as 1907. Act 35, of the Public Acts of 1907 provided for the establishment of county schools of agriculture, manual training, and domestic economy. This Act permitted the board of supervisors of one county or the boards of supervisors of two or more counties to

---

[1]Dalton, op. cit., p. 84.

[2]Ibid., Chapter V.

appropriate money for the organization, equipment and maintenance of a county school of agriculture and domestic economy. The Act specified that:

> In the county schools of agriculture and domestic economy organized under the provisions of this act, instruction shall be given in the elements of agriculture including instruction concerning the soil, the plant life, and the animal life of the farm; a system of farm accounts shall also be taught; instruction shall also be given in manual training and domestic economy and such other related subjects as may be prescribed.[1]

Under the provisions of this 1907 Act, the board of supervisors could, by a two-thirds vote, present the question of contracting indebtedness or issuing bonds for such schools to the electors of the county. Other provisions included the formation of a county school board to consist of the county commissioner of schools and four other members to be elected by the board of supervisors. The State Superintendent of Public Instruction had general supervision of all schools established under this Act. Such schools were to be made available to both youth and adults and were free to inhabitants of the county or counties.

Conflict during the 1940's. As noted in Chapter I, George H. Fern, former State Director of Vocational Education in Michigan advocated the establishment of area vocational schools throughout the state in an

---

[1]Michigan, Legislature, Act No. 35 of the Public Acts of 1907, Regular Session of the 1907 Legislature, Section 6.

article published in 1942. Fern pointed out that there was a commitment in this country to a single educational system rather than a dual system. The question, he said, was not whether we have a single system but how such a system can provide for the job training needs of our citizens.

> The great hope of an approach to satisfactory solution of the training and job needs of these millions of men and women lies in Area Vocational Schools. Such schools have been the vision of vocational educators for years. They should be stratigically located, adequately financed, soundly administered. . .[1]

Fern thus made a plea for area vocational schools in Michigan. He did not, however, in this article advocate any particular administrative structure for such schools.

Perhaps Fern's ideas regarding administrative structure for area vocational schools are expressed in the bulletin published in 1944 by the Michigan Council for Vocational Education Administration. This Council was composed of elected school superintendents throughout the state who served in an advisory capacity to the Division of Vocational Education of the Michigan Department of Public Instruction and thus worked closely with Fern in his position as State Director of Vocational Education.

---

[1]Fern, op. cit., p. 6.

The Michigan Council for Vocational Education Administration proposed a plan for the administration of area vocational schools which included the following:

1. The State Board of Control for Vocational Education would designate existing city or community schools or colleges as area vocational schools for specific vocational courses or subjects and designate the service area for such schools jointly in consultation with the local board and the State Superintendent of Public Instruction.
2. A local advisory council, approved by the State Board of Control for Vocational Education, would be established.
3. The State Board of Control for Vocational Education would reimburse such schools for administration, operation, maintenance, and transportation of students in accordance with the State Plan for Vocational Education.
4. No tuition would be charged for students under the age of twenty-one.
5. In those cases where designated area schools could not serve a particular area, the state could establish area vocational schools and operate them directly.

6. Successful programs would be continued in those schools where they were established. The area schools would provide additional opportunities for students in such schools, as well as providing vocational education for those students in schools which provide little or no vocational education.[1]

These efforts by the State Director of Vocational Education and the Council for Vocational Education Administration were met with opposition on the part of the State Superintendent of Public Instruction. Eugene B. Elliott, former State Superintendent of Public Instruction, opposed, in an article carried in a national educational magazine, the concept of area schools as proposed by the Council. He particularly critized elements of state control which he thought were inherent in the plan.

> A proposal setting forth a Michigan pattern for area vocational-technical schools has been tabled by the Michigan Board of Control for Vocational Education on the grounds that local responsibility for education would be drastically and harmfully curtailed by its acceptance.
>
> Adoption of the proposal would open the way for a dual system of education, thereby changing a hundred year tradition of complete education authority centered in the local public school systems.
>
> . . . . . .

---

[1]Michigan Council for Vocational Education Administration, op. cit., p. 4-7.

> The State Board of Control for Vocational Education, in considering the proposal to establish area schools, has thus been obliged to review the entire structure of Michigan's education system. It has concluded that the establishment of such duplicate or rival educational organization as is implicit in the area vocational-technical school concept is undesirable and unnecessary. Its establishment, under the terms of the proposal which was made, would lodge the power of arbitrary action with the state and would infringe upon the rights of local school districts to administer their schools.[1]

Such an attack by no less prestigious a person than the State Superintendent of Public Instruction resulted in a noticable decline in public pronouncements in support of the area vocational concept by staff members of the State Department of Public Instruction. As will be noted later, it was not until 1946 that the subject appears in the annual reports of the Division of Vocational Education.

The Michigan vocational education evaluation project. The development of area vocational education programs in Michigan has received considerable attention during the past three years.

A four-year comprehensive evaluation of Michigan's vocational education program was completed in 1963. Five "task forces" were each responsible for a phase of this evaluation which involved well over two hundred persons in actually conducting the project. One task force was

---

[1] Elliott, op. cit., p. 23-24.

responsible for evaluating the organization, administration, and supervision of the Michigan program. Among the thirty-one major recommendations that emerged from the various studies conducted as part of the over-all project were two of particular significance to the development of area vocational education programs in Michigan:

> It is recommended that the Legislature, through appropriate action, facilitate the establishment of a network of area vocational schools for youth and adults who find it impossible to secure adequate vocational education in sparsely populated areas of the state, many of whom will find it necessary to migrate to larger metropolitan centers to secure employment. This may be accomplished in part by the utilization of existing facilities, expansion of community colleges, or the construction of new facilities.

And:

> It is recommended that the community colleges expedite the utilization of their facilities to provide vocational education for high school students who are unable to secure training in their schools.[1]

The importance given to the community college in these recommendations should be noted. As part of the Michigan Vocational Education Evaluation Project, Wenrich prepared a report entitled "The Need for Area Vocational Schools in Michigan". He presented the case for the establishment of such schools in Michigan.

> Most high schools in Michigan are too small to provide a diversified program of specialized training

---

[1]Borosage, op. cit., p. 154.

> to meet the needs of employment-bound youth. Assuming a high school would need at least 1000 students to provide a variety of offerings to meet the specialized needs and interests of employment-bound youth, less than 20 percent of the high schools in Michigan could qualify. The plan used in several states, of vocational centers to which students go on a part-time basis for their specialized education, seems to have some merit. Under this plan boys and girls retain their membership in the local community high schools; take their general education with other students, including the college-bound youth; and graduate from the local high school.
>
> Vocational schools or centers would also provide better facilities and staff for the pre-service and in-service training of out-of-school youth and adults.
>
> It is recommended that further study be given to the area concept for purposes of vocational education for high school youth and adults. A thorough study should be made of area schools and/or programs in other states, including the size of the areas, plan of organization, methods of financing, etc.[1]

Background information bulletin. The Department of Public Instruction published a bulletin in 1963 which was especially significant. Lynn M. Bartlett, then State Superintendent of Public Instruction, said in the foreword to this bulletin:

> Michigan schools face many problems in providing adequate educational programs for those students who will not go on to college. Foremost among these problems is the fact that most Michigan schools lack both sufficient numbers of students and sufficient money to offer the kinds of programs which are needed. Perhaps the so-called comprehensive high school of today cannot completely satisfy the educational needs of all youth due to the rapidly

---

[1]Ralph C. Wenrich, The Need for Area Vocational Schools in Michigan (Ann Arbor, Michigan: The University of Michigan, School of Education, 1963), p. 12.

> changing employment competencies required by our society. It may be advisable to establish area vocational education programs or centers in Michigan to supplement the fine post-high school area vocational-technical programs in many of our community colleges.[1]

This statement is in direct contrast to that expressed by Elliott in 1945.

This bulletin provides information regarding the concept of area vocational education programs, existing area programs in the United States, organizational and administrative patterns being utilized, existing area programs in Michigan, and an analysis of existing Michigan legislation with implications for area vocational education programs. The bulletin was widely distributed among school administrators and others and served to bring about considerable discussion of the area concept.

The Upjohn study. Harold T. Smith conducted a study in 1963 in which he compared Michigan's system of vocational education with other selected states. He found that the Michigan program was not meeting evident needs:

> For reasons that are explicable, Michigan has only recently come to realize the severity of its need for a well-conceived statewide program of vocational-technical education for all of its people. The vigor of the state's economy and the ability of its industries to absorb large numbers of the unskilled and the semi-skilled on its assembly lines obscured the fact that so many ill-

---

[1]Michigan, Department of Public Instruction, Background Information Concerning Area Vocational Education Programs (Lansing: Michigan Department of Public Instruction, 1963), Foreword.

> prepared people are in our midst. The result is that Michigan has taken no firm steps toward developing a system of vocational education for all of its people, although it is beginning to do a great deal of thinking about it. Michigan is fortunate that, in the meantime, a heterogeneous mixture of vocational education institutions has not developed. The way is open to design a system especially suited to Michigan and to implement it with a minimum of investment loss and of disturbance to established interests.[1]

As a result of his study, Smith concluded that:

> The institutions needed are (1) the comprehensive area post-secondary and adult education institution, located ultimately at the heart of every commuting area in the state; (2) the comprehensive high school, which every high school should strive to be; and (3) the cooperative area vocational facility or education center located at the heart of every commuting area that is not yet able economically or otherwise to support a post-secondary institution. The center would be in fact an embryo post-secondary and adult education institution.[2]

Smith felt that the community college is the key to the orderly and sound development of vocational-technical education programs in Michigan. He stated that the community colleges in Michigan should open their facilities to the high schools for appropriate secondary courses, either academic or vocational, that the individual high schools cannot afford to offer.

---

[1]Harold T. Smith, author and ed., Education and Training for the World of Work--A Vocational Education Program for the State of Michigan (Kalamazoo, Michigan: The W.E. Upjohn Institute for Employment Research, 1963), p. 1.

[2]Ibid., p. 3.

> The community colleges can thereby serve as area education centers for the high schools of their areas. If they should not do so, parallel area institutions must develop to serve the high schools, for the area institution constitutes the only known device by which training beyond that which the individual high school can offer may be made available to youth or adults. The state of Michigan must look forward to the time when there is a modern community college or an area vocational education center in the heart of every commuting area.[1]

Smith's study included solicited chapters from selected states in which the authors were asked to describe the programs of vocational education in their respective states. In the chapter describing Michigan's program, reference was made to the inadequacies of vocational education in the state.

> It has been implied. . .that our present vocational education programs fall far short of meeting present-day occupational training needs. The vast majority of Michigan school districts do not offer truly comprehensive educational programs. Most districts do not have sufficient financial resources or students to afford comprehensive programs.
> . . . . . .
>
> If school districts are to provide students with the opportunity to become competent in the occupation of their choice, a way of combining district resources will have to be found. Consolidation of high school districts may be a possible answer; but it is doubtful whether most Michigan school districts will ever attain sufficient size to be able to meet the educational needs of all their students. This is particularly true if districts continue to operate vocational education programs individually.
>
> Perhaps our secondary schools should consider the advisability of establishing area vocational education programs of their own.[2]

---

[1] Ibid., p. 4.

[2] Ibid., p. 132.

Council on secondary education. In addition to vocational educators, other educators were giving the area vocational concept serious consideration at this time.

The Michigan Council on Secondary Education released a policy statement dealing with "employment-bound youth". After expressing concern for adequate educational programs for students who are not going to continue their education beyond high school for a four-year college degree, the Council made a plea for area vocational education centers. This plea was based upon the opinion that many Michigan school districts could not afford adequate programs for employment-bound youth.

> Michigan needs a system of area vocational education centers or programs. Such occupational preparation centers could serve youth from several cooperating high school districts. These districts could then operate programs under several possible administrative patterns. Two or more districts should be able cooperatively to build, finance, and operate such a center and/or the community college could provide occupational preparation programs for both high school and post-high school students from a number of districts.[1]

The Council made two recommendations for the development of area vocational education programs:

> That a coordinated plan be developed permitting school districts cooperatively to offer area

---

[1]Michigan Council on Secondary Education, A Policy Statement Concerning Employment-Bound Youth (Lansing: Michigan Department of Public Instruction, 1963), p. 2.

> vocational education programs. Careful study and consideration should be given to the best administrative arrangements for such area programs in Michigan.
>
> And:
>
> That efforts will be made to secure necessary legislation which will permit school districts cooperatively to operate vocational education programs. Such legislation should include financial provisions for buildings and operation, as well as for administrative arrangements.[1]

Council of Community College Administrators. Another organization concerned at this time about the development of area vocational programs was the Michigan Council of Community College Administrators. Late in 1963 this organization published a report indicating the possibility of Michigan community colleges serving as administrative units for a state-wide system of area vocational-technical education centers.

> The Michigan Community Colleges should be designated by the State Agency to serve as the Administration Centers for the Area Skill Centers for Vocational-Technical education for all educational levels and all ages.
>
> . . . . . .
>
> 1. The Community College concept, with its goals of providing a program for all citizens, has the necessary experience and the philosophy for operating such a program.
>
> 2. The present Community Colleges are so located that all citizens can feasibly in included in a skill center within reasonable proximity to present sites. . . .

---

[1] Ibid., p. 3.

3. The necessary legislation and organizational machinery exists for establishing additional sites, as they are needed.

4. A cooperative working arrangement exists with the State Universities and four-year Colleges in the area of professional and technical assistance.[1]

This report, through a series of maps, proposed to extend the service areas of existing community colleges (eighteen at that time) to cover the entire state. Each community college would operate, in addition to its major campus, a number of satelite area vocational centers sufficient to serve the needs within the extended service area.

The report contained considerable community college philosophy and no doubt served to stimulate additional discussion regarding the proper role of the community college in Michigan's system of vocational education. One statement, included in the report, attempted to define the scope of community college responsibility:

> The Community College being a community institution, is in a unique position. It may offer lower-division college courses and post-secondary vocational-technical courses to its regular students. In addition, it is able to provide evening programs for employed adults to increase their knowledge and culture of to up-

---

[1]Michigan Council of Community College Administrators, A Concept of Area Skill Centers for the State of Michigan--The Michigan Community Colleges as Administrative Units, A report of the Sub-Committee on Vocational-Technical Education, December 1963, p. 3-4.

> grade their skills. This is especially important in view of technological change. It can also serve as an area vocational center for the high schools of the area.[1]

Prior to the release of the report described above, the Michigan Council of Community College Administrators published a policy statement regarding the role of the community college. This publication contained the following statement:

> Community colleges recognize their obligation to provide, within their capabilities and the needs of the community, education and training toward developing, maintaining, and improving occupational competence in the fields of industry, business, science, agriculture, service technology, and skilled trades. These objectives may be achieved through specific curriculums, series of courses, and single courses which are usually related to the employment needs of the community served. The college may also make staff and facilities available to high schools for vocational courses at the secondary level. The community college shares with other public agencies responsibility for the up-grading, retraining, and rehabilitation of workers.[2]

The community colleges have thus made it clear that they expect to perform the role of post-secondary area vocational-technical education institutions and are even willing to provide some secondary vocational programs on an area basis.

Federal legislation affecting Michigan. The progress made in 1963 toward the establishment of area vocational

---

[1] Ibid., p. 12

[2] Michigan Council of Community College Administrators, A Policy Statement, op. cit., p. 2.

programs in Michigan led directly to the passage of significant state legislation, in 1964. Before considering this 1964 state legislation, however, the effect of the Federal Vocational Education Act of 1963 should be noted.

Under the provisions of the 1963 Act, state boards of education must designate and approve schools and institutions for the purpose of providing area vocational education programs in order for these agencies to be eligible for construction funds. The Michigan State Board of Education, as noted in Chapter I, took action in 1965 designating all community colleges and school districts of the first and second class as area vocational-technical education centers. In addition, the Board authorized the State Superintendent of Public Instruction to make other designations as needed.[1]

For the two fiscal years of 1965 and 1966, Michigan allocated a total of $6,143,442 in state-federal funds for the construction of area vocational education school facilities under the provisions of the Vocational Education Act of 1963. These funds assisted in the con-

---

[1]Michigan, State Board of Education, Minutes of the State Board of Education: February 10, 1965 (Lansing: State Board of Education, 1965).

struction of eleven vocational education facilities on community college campus', eight high school projects and one on a university campus.[1]

Lynn M. Bartlett, former Michigan Superintendent of Public Instruction, gave evidence of an entirely different attitude than did some of his predecessors when he testified before the House of Representatives Committee on Education and Labor during the Congressional hearings on the Vocational Education Act of 1963. His testimony included the following statements:

> MR. O'HARA. I note one of the purposes for which Federal funds could be used under the terms of the legislation on which you have commented, is construction of area vocational education facilities. It seemed to me this is another great area of need in the State of Michigan. Would you contemplate that enactment of this legislation could help?
>
> DR. BARTLETT. Yes; I think this is greatly needed. In Michigan for many years there has been the concept of the development of the so-called comprehensive high school. I believe this should continue. I do not think these are mutually exclusive, one of the other. . . .There are not enough facilities to meet the needs of the young people of our State. I think we should change our concept, also, to include some of the area vocational-technical schools.
>
> . . . . . .
>
> MR. GILL. You feel, then, that a system of separate or area vocational and technical schools would supply this additional type of training you need?

---

[1]Michigan, Department of Education, Division of Vocational Education, unpublished records.

> DR. BARTLETT. I think we need both. As I say, in Michigan for a number of years we have gone away from the concept of the separate technical or vocational school, but I think with the manpower needs and the situation today, with the number of dropouts, with the number of young people who are just not prepared for any skilled occupation, we must re-examine and re-evaluate what we are doing.[1]

State legislation. These events led to the enactment of specific state legislation in Michigan to facilitate the development of area vocational education programs. In 1964 the Michigan Legislature amended two existing Acts, thereby providing permissive legislation for the financing of area vocational education programs on a broad geographical basis.

Act No. 246 of the Public Acts of 1964 which amended the Intermediate School District Act, Act 190, P.A. 1962, provided for the financing of area vocational education programs by the intermediate school district. The electorate can authorize the collection of millage for such programs. If a millage is passed, the intermediate district board of education would enter into long-term contract with one or more high school districts or community colleges to provide vocational programs on an

---

[1]Lynn M. Bartlett, "Statement of Dr. Lynn M. Bartlett, State Superintendent of Public Instruction, State of Michigan", Hearings Before the General Subcommittee on Education of the Committee on Education and Labor, House of Representatives, Eighty-Eighth Congress, First Session, on Title V-A of H.R. 3000 and H.R. 4955 (Washington: U.S. Government Printing Office, 1963), p. 524-525.

area basis. Both capital outlay and operational costs could be financed with this millage. This legislation specifically prohibits intermediate districts from operating programs.[1]

Act 237 of the Public Acts of 1964 amended the Community College District Act, Act 188, P.A. 1955 to provide for the formation of a community college district by one or more counties or by two or more kindergarten through twelfth grade school districts for the sole purpose of establishing and operating an area vocational-technical education program for both high school and post-high school students if the board of trustees so desires.[2]

Annual reports. A review of the Annual Descriptive Reports of the Division of Vocational Education, Michigan Department of Education, reveals a concern over the years with the subject of area vocational education programs or schools. Perhaps reflecting the controversy of the early 1940's the 1946 report contained this statement:

> Until enabling legislation is passed by the State Legislature, the area trade school will not become a reality in Michigan in the full sense of the term. In actual practice, however, we find an increasing number of non-resident tuition students

---

[1]Michigan, Legislature, Act No. 246 of the Public Acts of 1964, Regular Session of the 1964 Legislature.

[2]Michigan, Legislature, Act No. 237 of the Public Acts of 1964, Regular Session of the 1964 Legislature.

attending vocational schools in the larger centers. In some cases, students are commuting up to fifty miles per day from smaller communities to large city vocational schools.[1]

And in the 1950 report:

> Further effort will be given to attempt to make it possible for youth living in school districts not offering Vocational Education to participate with schools which do provide such offerings. This is a legislative problem and while considerable attention has been given to it, in the past, efforts will be continued.[2]

The 1951 report indicated that efforts which would perhaps, not require legislation would be tried:

> Efforts will be made to encourage the organization of vocational programs in which two or more school districts cooperate in offering vocational training opportunities which none alone could provide.[3]

Similar statements were contained in the 1952 and 1955 reports. It was not until 1961 that the subject again appeared in the annual report:

> It is evident that few comprehensive high schools can hope to offer broad programs of Vocational Education, and therefore, some consideration must be given to programs serving an area or a number of schools. Even the large comprehensive high schools in the City of Detroit are unable to offer all types of vocational training needed. Programs developed under the National Defense Education Act

---

[1]Michigan, State Board of Control for Vocational Education, Annual Descriptive Report for the Fiscal Year Ended June 30, 1946 (Lansing: Michigan Department of Public Instruction, 1946), p. 14.

[2]Michigan, State Board of Control for Vocational Education, Annual Descriptive Report for the Fiscal Year Ended June 30, 1950 (Lansing: Michigan Department of Public Instruction, 1950), p. 7.

[3]Michigan, State Board of Control for Vocational Education, Annual Descriptive Report for the Fiscal Year Ended June 30, 1951 (Lansing: Michigan Department of Public Instruction, 1951), p. 8.

> of 1958 have demonstrated the advantage of area vocational programs. This problem must receive serious consideration of educators and school administrators in the years to come.[1]

The 1963, 1964, and 1965 reports contained statements reflecting developments already described in this chapter.

Area studies. The encouragement given to area vocational education programs by the Vocational Education Act of 1963 resulted in another significant Michigan development. The 1963 Act requires, in order for a local educational agency to be eligible for construction funds, that the State Board of Education designate the agency as an area vocational education school.[2] As a result, the Michigan Department of Education has encouraged the conduct of area vocational-technical education studies throughout the state. Thirty-eight such studies have been initiated, all of which are county or multi-county in scope. These studies involve seventy-two of Michigan's eighty-three counties.

The area studies are designed to provide long-range local and state planning for vocational-technical education.

---

[1]Michigan, State Board of Control for Vocational Education, Annual Descriptive Report for the Fiscal Year Ended June 30, 1961 (Lansing: Michigan Department of Public Instruction, 1961), p. 6.

[2]U.S., Congress, Vocational Education Act of 1963, op. cit., Section 8 (2).

> Area studies result in a plan which outlines the vocational courses and programs that should be offered in the area. They determine where these programs should be located on a centralized basis and they also determine how they could be financed.[1]

The close involvement of local people in determining the location of area vocational education programs is another indication of concern on the part of state officials for as much local automony in educational matters as possible.

State Board of Education bulletin. In 1966 the State Board of Education published a bulletin entitled, Establishing and Operating Area Vocational-Technical Education Programs in Michigan. This bulletin contains sections dealing with: the area concept; conducting area studies; legal provisions; organizational patterns; facilities; curricula; and developing desirable relationships with business, industry and labor. The bulletin was prepared by the State Vocational-Technical Education Curriculum Committee and represents the most advanced indication of a commitment on the part of state education officials to the area vocational education concept.[2]

---

[1]Michigan, Department of Education, Division of Vocational Education, Area Vocational-Technical Education Studies (Lansing: Michigan Department of Education, 1965), p. 1. (Mimeographed.)

[2]Michigan, Department of Education, Establishing and Operating Area Vocational-Technical Education Programs in Michigan, op. cit.

Existing Area Vocational Education Programs

Existing programs in the United States. The Division of Vocational and Technical Education of the U.S. Office of Education reports that there has been a substantial development of area vocational education programs since the passage of the Vocational Education Act of 1963. A recent summary of program development in the various states contains this statement:

> A nation-wide chain of State and locally-operated vocational-technical schools accessible to men, women, and youth is fast giving American education a new look.
>
> Although many of these schools are already in operation, the reports indicate that at least 125 new schools are under construction, 209 additional ones are planned, and 62 existing centers have been designated as area schools.[1]

Connecticut's vocational education program is conducted through the state system of vocational-technical schools. These are all area institutions serving both youth and adults.[2]

New York State is planning a state-wide system of area vocational schools which would utilize existing facilities and would necessitate the construction of

---

[1] U.S., Department of Health, Education, and Welfare, Office of Education, Summary Report of Vocational-Technical Program Development by States (Washington: U.S. Government Printing Office, 1966), p. i.

[2] O'Brien in Harold T. Smith, op. cit., p. 49-55.

new facilities where they are not now adequate. Fifty-three centers would be established under the proposed plan.[1]

In 1963 Kentucky had fourteen area vocational schools distributed geographically over the state. Hilton states that extension centers are being developed from the original fourteen schools. These schools provide programs for both high school youth and adults. According to Hilton, seven of the fourteen schools were operated by the state.[2]

Valentine describes the operation of twenty "Industrial Education Centers" in North Carolina. It is anticipated that these centers ultimately will be strategically located throughout the state. Extension units have been developed for several of the centers in the larger areas.[3]

Hamlin summarized area vocational education program developments in the South in a recent article:

> The South has 438 area schools, public and private, in operation or authorized, an average of 33 per

---

[1]Harold T. Smith, op. cit., p. 57-58.

[2]E.P. Hilton, "Vocational Education in Kentucky" in Harold T. Smith, op. cit., p. 81-88.

[3]Ivan E. Valentine, "The Organization, Function, and Objectives of the Industrial Education Centers of North Carolina", in Harold T. Smith, op. cit., p. 89-93.

> state. They include junior and community colleges, vocational schools, technical institutes, and branches of state universities. Sixty-seven of them are special schools for vocational and technical education. Programs of vocational-technical education, varying greatly in comprehensiveness, are offered in about 60 junior or community colleges.[1]

Many states, such as California[2] and Florida[3] utilize the junior or community college for the provision of vocational education on an area basis for post-secondary students and adults.

Recent Indiana legislation provides for the establishment of area vocational schools. The Southeastern Indiana Area Vocational School is being developed to serve a seven county area. This school will enroll both youth and adults and it plans, in the near future, to award the Associate Degree for two year technical programs beyond the high school.[4]

The above examples serve to illustrate the various types of area programs in the nation and provide a background from which to view area vocational programs in Michigan.

---

[1] H.M. Hamlin, "New Designs in Vocational and Practical Arts Education", American Vocational Journal, Vol. 39, No. 9 (December, 1964), p. 12.

[2] Wesley P. Smith, "Vocational Education in California" in Harold T. Smith, op. cit., p. 95-106.

[3] G.W. Newbauer, "Vocational and Related Education in Florida", in Harold T. Smith, op. cit., p. 69-79.

[4] William E. Martin, Southeastern Indiana Area Vocational Schools, (Mimeographed.)

Existing programs in Michigan. There are no centralized high school area vocational education centers operating at the present time in Michigan. Several such facilities are under construction, however. Area vocational program facilities are being constructed at Petoskey and Alpena as additions to new high school buildings. Other area high school vocational units are planned as additions to five Detroit high schools plus a new Aero Mechanics high school to serve the entire city.[1] Area vocational program planning in the Detroit school district illustrates how the area concept can work in a large city.

In 1962, a special staff committee appointed by the superintendent of schools submitted recommendations to the superintendent and the Board of Education of the City of Detroit. This committee was charged with developing recommendations for preparing students for the world of work. The recommendations dealing with the area concept were:

> While each comprehensive high school should offer programs to meet the needs of most of the students living within its area, some programs will not be

---

[1]Michigan, Department of Education, Division of Vocational Education, Grants for Area Vocational-Technical Education Construction Project, 1964-65 and Tentative Grants for Area Vocational-Technical Education Construction Projects, 1965-66 (Lansing, 1966), (Mimeographed.)

numerically or economically justified at all high schools. Those programs which have such limited interest, or involve the use of such specialized facilities and equipment, that they cannot be offered at every high school should be offered in locations convenient for students from several schools.

A student who desires and needs greater specialization than is offered in his comprehensive high school should be encouraged to attend the area or special district high school with world-of-work-oriented specialties. The student's approved choice at the end of grade 9 should allow him continuing freedom both to explore and to change his field of interest and to find his aptitudes and levels of competence in various fields.

These special district schools would be expanded comprehensive high schools which should carry the full range of specialties, from the science and arts programs for the superior students to the simplest world-of-work trainings involved in short-term specific-skill classes.[1]

This concept is now being implemented in the city of Detroit with the construction projects which are in various stages of construction and planning.

Three school districts in the southern part of St. Clair County have jointly operated a type of area vocational education program since 1940. Prior to some recent school district consolidation in the area, this program involved five districts. The services of certain professional personnel are shared and students are exchanged between districts for some vocational classes.[2]

---

[1]Detroit Board of Education, Preparing Pupils for the World of Work, Report of a Special Staff Committee Appointed by the Superintendent of Schools, (Detroit: Board of Education of the City of Detroit, 1962), p. 25.

[2]St. Clair River Area Program of Coordinated Educational Programs, (Mimeographed.)

A recent publication of the Michigan Department of Education listed high school districts with joint or shared-time programs. Four areas were listed in which two or more districts share instructional programs. Three areas share vocational education administrative personnel and eleven were listed as sharing cooperative education program coordinators.[1] These represent one form of area vocational programs, however, none provide centralized programming.

Michigan's nineteen community college districts which enrolled students during 1965-66 all provide some type of vocational education program. Some of these do not provide programs of sufficient scope to receive designation as area vocational education programs by the State Board of Education. All community colleges draw their students from a rather wide geographic area and thus can serve as area centers for post-secondary vocational education programs. State Department of Education records indicate that seventeen community colleges provided reimbursed vocational education programs during 1965-66.[2]

---

[1]Michigan, Department of Education, Division of Vocational Education, Locations of Joint Vocational Education Programs in Operation in Michigan (Lansing: Department of Education, 1966), (Mimeographed.)

[2]Michigan, Department of Education, Division of Education, unpublished records.

Several of Michigan's four-year colleges and universities serve the entire state as area vocational education centers for specialized programs of a vocational character that do not carry college credit leading to a baccalaureate degree.[1]

Summary

This chapter shows the development of area vocational education programs in the United States and Michigan. This development is reviewed to lend perspective to subsequent chapters.

Vocational education in colonial America was based primarily upon the apprenticeship system. The development of vocational education programs in the United States has evolved through a variety of different types of institutions. Manual labor schools, industrial schools for orphans and poor children, mechanic's institutes, lyceums, and manual training high schools have all been utilized in the process of providing vocational education for a fast growing industrial nation.

Benjamin Franklin and Thomas Jefferson were among the first prominent men to advocate the provision of vocational education through a system of public schools.

---

[1]Harold T. Smith, op. cit., p. 125.

The efforts of these individuals hastened the development of public vocational education programs.

The so-called "vocational education movement" received its real start in Massachusetts with the report to the state legislature by the Douglas Commission. The work of this Commission resulted in the first state system of free vocational education. Other states quickly followed the example set by Massachusetts.

The passage of the Smith-Hughes Act in 1917 represented the first federal participation in financing vocational education programs. This Act has been followed by several others, the latest being the Vocational Education Act of 1963 which greatly expanded federal financial participation.

Area vocational education programs have developed in a number of states throughout the country. Efforts by the American Vocational Association and the United States Office of Education have served to stimulate this development.

Michigan has not developed extensive area vocational education programs. Perhaps part of the reason for this lack of development has been the belief held by many Michigan educators that the community school concept and a system of area vocational programs are incompatible.

Recent developments in Michigan have resulted in considerable attention being given to area vocational programs and their potential for the state. New state legislation has provided additional ways for organizing and operating such programs. Area programs may be operated under five alternative patterns: (1) decentralized programs, (2) tuition programs, (3) programs financed by intermediate school districts, (4) programs financed and operated by community colleges districts, and (5) programs jointly operated under contract by two or more districts.

Very few vocational programs have been established in Michigan on an area basis. It is thought that a rationale for the establishment of area vocational education programs in Michigan will be helpful in terms of clarifying administrative and philosophical questions.

CHAPTER IV

A PHILOSOPHICAL BASIS FOR AREA VOCATIONAL EDUCATION PROGRAMS

Introduction

In previous Chapters the need for vocational education and the extent to which present programs and organizational structures are meeting this need was determined. This Chapter will develop a philosophical base upon which to build organizational structures for vocational education programs. The implications of this philosophy for the establishment of area vocational education programs is also included.

A Philosophy of Education

The aims of education. Education is a process in which each individual is assisted in developing to his fullest potential as a cooperative member of society. Along with the development of the individual, education has responsibility for transmission of the social heritage. Thus education has a twofold purpose. It is concerned with human growth but within the context of society and social needs.

The concept of growth is vital to understanding the purposes of education. Man is in a constant state of becoming. He is not born with the certainty of

becoming the kind of person he becomes. As Henderson has said, "No one is born with the self he becomes already predetermined".[1] A person's growth and development is a function of his continuous interaction with his physical and social environment.

> Because a human being is so dependent upon society for his development, individual welfare and social welfare are inter-dependent. Since man's nature is fundamentally social, it would seem to be a mistake to think of education exclusively in terms of individual growth without reference to society and social needs.[2]

Individual growth formed the cornerstone of Dewey's philosophy of education. He believed that the process of continuous growth is the central purpose of education.

> Since growth is the characteristic of life, education is all one with growing; it has no end beyond itself. The criterion of the value of school education is the extent in which it creates a desire for continued growth and supplies means for making the desire effective in fact.[3]

Dewey also emphasized the interdependence of individual growth and the social environment:

> The social environment consists of all the activities of fellow beings that are bound up in the carrying on of the activities of any one of its members. It is truly educative in its effect in the degree in which an individual shares or participates in some conjoint activity.[4]

---

[1]Stella Van Petten Henderson, Introduction to Philosophy of Education (Chicago: University of Chicago Press, 1947), p. 33.

[2]Ibid.

[3]John Dewey, Democracy and Education (New York: The MacMillan Co., 1916), p. 62.

[4]Ibid., p. 26.

> The inclination to learn from life itself and to make the conditions of life such that all will learn in the process of living is the finest product of schooling.[1]

In greatly simplified terms, the purpose of education is preparing the individual for life. This preparation is accomplished within a social context. As Whitehead has succinctly stated: "There is only one subject-matter for education, and that is Life in all its manifestations".[2]

Education in a democracy. Our society has a cultural commitment to democracy. This commitment involves a belief in the integrity of man and in the freedom of the individual. Democratic freedom is based upon the concept that each individual has a unique opportunity to make changes in his social, occupational, and intellectual life. Democracy is the process of continuous reconstruction of basic life patterns. It is living in such a way that there are no fixed patterns of life. In this sense democracy is not an exclusively political term. Rather, it embraces an entire way of life.

> It can readily be seen what a mistake it is to identify the spirit of democracy with political democracy alone. That spirit must permeate all

---

[1] Ibid., p. 60.

[2] A.N. Whitehead, The Aims of Education and Other Essays (London: Williams and Norgard Ltd., 1932), p. 10.

> all areas of living--the economic and social as well as political. In fact, political democracy is of little use unless it promotes favorable conditions in the economic and social phases of life.[1]

Bode also sees democracy as being a broad inclusive concept embodying much more than political beliefs:

> Democracy. . .is no longer a name for compartmentalized political beliefs but becomes a point of view that cuts across the whole mass of our traditional beliefs and habits. It calls for a reconstruction of beliefs and standards in every major field of human interest and thus takes on the universality of philosophy and of religion, which is to say that it becomes a generalized or inclusive way of life.[2]

Basic to the concept of democracy is a belief in the worth and dignity of the individual and in the fact that men are able to manage their affairs in such a way that the welfare of all is promoted. A democratic society is a cooperative society in which experience is freely communicated. As Dewey pointed out, the worth of a form of social life can be measured by the extent to which interests of a group are shared by all members and the freedom with which it interacts with other groups.

> An undesirable society, in other words, is one which internally and externally sets up barriers to free intercourse and communication of experience. A society which makes provision for participation in its good of all its members on equal terms and

---

[1]Henderson, op. cit., p. 149.

[2]Boyd H. Bode, Democracy as a Way of Life (New York: The MacMillan Co., 1943), p. 51.

> which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic. Such a society must have a type of education which gives individuals a personal interest in social relationships and control, and the habits of mind which secure social changes without introducing disorder.[1]

Dewey defines a democratic society as one which places emphasis upon the recognition of mutual interests as a factor in social control and at the same time has numerous and varied points of common interest. It is also a society which permits not only free interaction between social groups but change in social habit, a continuous change through the meeting of new situations produced by varied relations between individuals or groups.[2]

Dewey and Bode thus support each other in contending that a true democracy permits the constant reconstruction and change in basic life patterns.

The school cannot develop an improved society alone because it does not have entire control over the education of children. Society itself educates and the school is but part of society. But the public school, organized by the people as a means, hopefully, of assuring equal opportunity by providing each individual with a common base upon which to build, has particularly heavy responsibilities.

---

[1]Dewey, op. cit., p. 115.

[2]Ibid., p. 97-100.

Education in a democracy is characterized by public schools which purposefully aim to develop the abilities, understandings, and knowledge necessary to live in a society which constantly reconstructs basic life patterns. The schools must provide students with real experiences which provide an opportunity for reconstruction of attitudes and beliefs based upon an objective evaluation of the basic factors involved in each situation.

The democratic school should provide such opportunities by becoming a miniature democracy in which children are taught to live in a democracy by actual experience. In the words of Bode, it becomes an artificial community created for a special purpose:

> The democratic school, in brief, is an institution which aims to promote the ideal of 'free and equal' by taking proper account of individual differences and by reliance on the principal of community living. It is an artificial community in the sense that it does not spring up naturally but is created for a special purpose.[1]

Democratic education must have primary regard for individual differences. People come to school with different backgrounds and beliefs. They should not be expected to emerge with a common set of conclusions.

> It is not to such uniformity of conclusions, but to certain habits of thinking and feeling and acting that democracy must look as its hope for the future.[2]

---

[1]Bode, op. cit., p. 82.

[2]Ibid., p. 106.

Thus Bode characterized the main purpose of education in a democracy as being the development of thought and behavioral processes which enable the individual to intelligently reconstruct basic patterns of living.

A Philosophy of Vocational Education

Vocational education is an integral part of the total educational process. Education in our society must provide individuals with experiences whereby they can learn to live. This learning to live concept includes learning to earn a living. Regardless of how the educational process is attempted, the individual himself is the integrating agent for educational experiences. A philosophy of vocational education must therefore become part of a philosophy of education.

The purposes of vocational education. It was pointed out in Chapter II that numerous national education commissions and groups have repeatedly stated that preparation for work is a necessary part of public education. As Henderson has stated, one of man's basic needs is for work which is meaningful to him.[1] In a discussion of sociological implications for vocational education, Brookover and Nosow bring out the significance of work:

> Occupation in American society is the most significant status-conferring role. While it is

---

[1]Henderson, op. cit., p. 74-75.

> true that lowly occupations confer lowld statuses, at least they allow the individual to form some stable conception of himself and his position in the community. The significance of work in an urban industrial society must be recognized in all discussion of occupations and vocational preparation. A healthy community must have healthy citizens, and healthy citizens must have work. The job is not alone a means for subsistance--a man without work may draw subsistance from the community but his status is different from one in which he holds a respectable job.[1]

Working means more than merely earning a living. The work role serves to give status within the society and give a feeling of belonging to that society. Morse and Weiss point out that these values are not ordinarily available in a nonwork situation:

> . . .for most men having a job serves other functions than the one of earning a living. In fact, even if they had enough money to support themselves, they would still want to work. Working gives them a feeling of being tied into the larger society, of having something to do, of having a purpose in life. These other functions which working serves are evidently not seen as available in nonwork activities.[2]

Most men need to experience a degree of success in their work in order for it to become meaningful. This need will vary from individual to individual to the

---

[1]Wilbur B. Brookover and Sigmund Nosow, "A Sociological Analysis of Vocational Education in the United States", Education for a Changing World of Work: Appendix III, U.S. Department of Health, Education, and Welfare (Washington: U.S. Government Printing Office, 1963), p. 46.

[2]Nancy C. Morse and R.S. Weiss, "The Function and Meaning of Work and the Job", Man, Work, and Society, ed. Sigmund Nosow and William H. Form (New York: Basic Books, Inc., 1962), p. 29.

extent that each measures his own self-esteem in terms of his occupational success.

While vocational education contributes to some of the other basic needs of man, it is this one associated with his work where a unique and direct contribution is made. The basic purpose of vocational education is to develop skills, abilities, understandings, attitudes, work habits, and appreciations which are necessary for occupational success. Vocational education contributes to the development of sound attitudes toward and appreciations of the intrinsic values of work.

The Panel of Consultants on Vocational Education identified two broad objectives of vocational education in their study. These are:

> Every citizen should have the opportunity to attain occupational competencies compatible with his abilities and interests.
>
> . . . . . .
>
> The size and scope of the vocational education program should meet the qualitative and quantitative needs of the Nation for trained workers, in a time of rapid technological change, economic growth, and international challenge.[1]

While these "objectives" are not well-stated as objectives, nevertheless, they contain two basic elements for adequate vocational education programs. The first is

---

[1]U.S., Department of Health, Education, and Welfare, Education for a Changing World of Work, op. cit., p. 66.

individual opportunity and the second is availability of opportunity sufficient to meet national needs.

Vocational education should provide an opportunity for the individual to become occupationally competent. In a democracy the individual must have freedom of choice in determining his occupation. He must have the opportunity of choosing for himself his career preparation.

This means that broad vocational education programs must be available and that the individual must be apprised of these occupational preparation opportunities. He should be assisted to accurately assess his own potentiality for various careers of interest to him.

Programs should be of sufficient scope and quality to assure trained workers in adequate numbers to meet national manpower needs. The number of available training programs and their location should be coordinated in such a way that critical manpower needs are met.

Different purposes for various groups. There are several groups of persons for which the purposes of vocational education are different. Vocational education must be somewhat different for the high school dropout, the high school graduate, the full-time post-secondary student, the employed adult, and the unemployed worker.

The potential high school dropout should be identified as early in his junior or senior high school experience

as possible. He should be provided with the opportunity to acquire sufficient job skills so that he can compete successfully for at least the lower level skill occupations. Depth training for an occupation is seldom possible for the high school dropout. He will miss one or two years of senior high school and those programs where some skill development takes place. It may be that special programs should be developed for these youngsters after they leave school.

The high school graduate who will enter the labor force immediately after graduation, should have acquired sufficient skill to enable him to secure a job. This can be accomplished in the "cluster" programs described in Chapter II.

The full-time post-high school student has the best opportunity to acquire vocational preparation in depth due to his extended training. His training period may be relatively short or it may extend for two or more years. In Michigan, an expanding community college system is expected to provide a wide scope of educational opportunity for these students.

Vocational education for the employed worker should be of such a nature as to enable him to upgrade his skills or to prepare himself for a different occupation. Upgrading programs and courses will usually be of short duration and offered at various times of the day and evening for the convenience of enrollees.

Retraining for unemployed workers is not too different from preparatory programs for other groups. Ordinarily, extensive general education is not provided and in this way they differ from programs for full-time preparatory students in a community college. Sometimes basic education will be needed by unemployed persons before they can profit from vocational education. Retraining for unemployed workers should be of an intensive nature to enable a return to the labor force as soon as possible.

Vocational education in the schools. The role of various levels in the public educational system was discussed in detail in Chapter II. These roles were defined as developing an awareness of the occupational world in the elementary and junior high school grades, occupational exploratory experiences in the early senior high school, a "cluster" approach to vocation preparation during the later senior high school years, and providing a wide variety of more specific occupational preparation programs in the community college. Continuing vocational education opportunities would be available to adult workers.

The Dictionary of Occupational Titles lists 21,741 different occupations.[1] This presents an immense challenge to education if this number of occupations is

---

[1]U.S. Department of Labor, Dictionary of Occupational Titles, Vol. 1, 3rd Edition (Washington: U.S. Government Printing Office, 1965), p. xv.

to be translated into training programs. If our educational program is to be truly democratic, we must at least theoretically, provide the opportunity for any person to prepare himself for any socially acceptable occupation within the limits of his ability. This immense task can be accomplished by following the type of program outlined in Chapter II. A model will be developed in Chapter V for an integrated vocational education program which embraces the various educational levels including continuing education.

Young people should receive assistance in accurately assessing their potentialities and making an occupational choice. They must have the opportunity to develop those potentialities to the fullest extent. This cannot be accomplished if they are confronted with limited opportunities for occupational preparation.

Individuals develop at varying speeds. This includes physical, emotional, intellectual, and vocational development. These individual differences in the development of maturity must be recognized in planning a vocational education program as well as for other aspects of education.

The achievement of full-potential cannot be realized if youngsters are forced to make occupational choices before they are vocationally mature enough to accurately

make such a decision. Some youngsters can wisely choose a career while still enrolled in high school. Others will not be able to make this decision until they are well along on some type of post-secondary educational program.

The concept of an integrated occupational preparation program, as described in Chapter II, will enable individual students to make or to defer occupational selection at any time after they have reached the upper grades of the senior high school. After completing some phase of the "cluster" curriculum in the senior high school they should have acquired sufficient skill to enable them to secure a job of their choice or they will have acquired a basic background to enhance their further education. In either case, they will have had a broad look at the occupational world. They should be able to make a reasonably intelligent judgement regarding their life's work.

Implications of educational philosophy for area vocational education programs. The objective of vocational education in a democracy is to provide an opportunity for each individual to become vocationally competent in the occupation of his choice within the limits of his ability. In order to realize this objective, broad vocational preparation programs should be readily accessible to all individuals. Recognizing that not all needed vocational

preparation programs can be afforded by each high school, some type of area vocational program would seem to present a logical solution.

Most Michigan high schools are too small (see Chapter II, page 29-30) to provide the necessary shop-laboratory facilities to teach twelve to fifteen cluster-type vocational education programs at the eleventh and twelfth grades. Singly they do not have sufficient numbers of student nor financial resourses to justify such facilities. If they are to provide the kind of vocational education program previously described, they will have to do so through some means which will enable a number of districts to cooperatively work together for this purpose.

The arguments for area vocational programs at the post-secondary level are even stronger. The programs should be more specialized and of greater variety to meet identified labor market needs. Michigan's community college system is developing on an area basis. Only seven of the twenty-seven community colleges are operated by a single high school district.

On the basis of the evidence presented, it would seem that a secondary area vocational center should provide training for most of the cluster-type programs

at the senior high school level and that the post-secondary vocational program should be conducted on an area basis by Michigan's community colleges.

Summary

Education aims to develop each individual to his fullest potential as a cooperative member of society. Education also has responsibility for transmission of the social heritage.

Democracy is more than a form of governement. It is primarily a form of associated living involving communicated experience. It is a form of living which permits and even encourages the reconstruction of basic patterns of living. Life in a true democracy is characterized by the opportunity for individuals to make occupational, social, and intellectual choices.

Vocational education is an integral part of the total educational process. The basic purpose of vocational education is to develop skills, abilities, understandings, attitudes, work habits, and appreciations which are necessary for occupational success. In a democracy the individual must have freedom of choice in determining his occupation. He must have the opportunity of choosing for himself his career and an opportunity to prepare himself for that career.

The purposes of vocational education are somewhat different for different groups of people. Vocational education should be available for the high school dropout, the high school graduate, the full-time post-secondary student, the employed adult, and the unemployed worker.

Each level of the educational system has a unique role to play in the development of occupational competency. Students should have progressive opportunities to develop to their fullest occupational potential.

If our educational program is to be truly democratic, we must provide the opportunity for any person to prepare himself for any occupation within the limits of his ability. This goal can be reached if organizational patterns are developed which permit the concentration of sufficient resources to justify needed programs and if we do not force youngsters to make premature occupational decisions.

CHAPTER V

A MODEL ORGANIZATION FOR VOCATIONAL EDUCATION PROGRAMS IN MICHIGAN

Introduction

It is vitally important that curriculum be determined before consideration is given to the kind of organizational structure needed for vocational education. Too often school buildings are constructed and organizational patterns for administration are developed without a clear concept of the curriculum for which they should be designed. The educational needs of the individual must become the starting point for all planning.

In earlier Chapters, a curriculum philosophy for vocational education in the public schools was developed. This Chapter will provide two "models" for vocational education programs. The first will be a model for an integrated vocational education curriculum and the second will be a model for an organizational structure in order to provide the integrated curriculum. These should be considered as hypothetical models. There may be other equally desirable models for occupational curricula and organizational structures.

A Model for an Occupational Preparation Curriculum in the Public Schools of Michigan

Table 4 presents a curriculum model for occupational preparation. Vocational education, as defined in Chapter I, would not begin until the late senior high school

TABLE 4

A MODEL FOR AN INTEGRATED
VOCATIONAL EDUCATION PROGRAM

	Elementary School	Junior High and Early Senior High	Late Senior High	Post-Secondary and Adult
Objectives	Develop awareness of the occupational world	Continue to stimulate awareness and provide exploratory experiences	To provide training for "cluster" occupational preparation	To provide job training, upgrading, and retraining
Number of occupations included	Examples representative of the 21,741 occupations	Group all occupations into four major categories--examples would be selected	Most occupations would be grouped into clusters	Depends on the labor market served and student interest
Number of courses or curricula	Integrated as a part of total program	Four courses	Twelve to fifteen clusters	Perhaps twenty to fifty programs
Physical facilities	Home school	Home school	Secondary area vocational center and home school	Community college (post-secondary area vocational center)

years. The model was developed to include not only the more narrowly defined vocational education programs, but also those "pre-vocational" experiences which are directly related to occupational preparation.

It is important to note that occupational preparation programs are a part of the total school experience of the student. Except for some specific training programs designed exclusively for employed workers, vocational programs should be provided in conjunction with general and academic education programs.

Objectives. The curriculum model in Table 4 is designed to accomplish the following objectives which were discussed in detail in previous Chapters:

1. To develop an accurate awareness of the occupational world during the elementary and junior high school years.
2. To provide exploratory experiences in the early senior high school for all students sufficient to enable them to assess their own abilities and interests in terms of the job requirements for major occupational categories.
3. To provide vocational education programs at the late senior high school level built around clusters of related occupations which

will enable students to either, (a) develop skill, knowledge, and understanding sufficient to enter an occupation in one of the clusters, or, (b) secure the broad basic preparation necessary to successfully complete a vocational preparation program in a post-secondary institution.

4. To provide at the post-secondary level a wide variety of vocational preparation programs designed to give depth training for a particular occupation or for several closely related occupations.
5. To provide opportunities for continuing vocational education for persons who have entered the labor force and who need either job upgrading experiences or retraining programs.

Occupational scope of the model. The model contains an important concept in the row labeled "Number of occupations covered". It was emphasized earlier, that within the limits of individual ability, a truly democratic society must provide an opportunity for each individual to prepare himself for the occupation of his choice. This can be accomplished only if career selection is made with complete knowledge of career opportunities and if preparatory opportunities are juxtaposed with this knowledge.

The model suggests that youngsters should not be asked to make career selections until at least the late senior high school. Even at this time, it is not necessary to make definitive occupational selections except for those students who will enter the labor market immediately upon leaving high school. It was noted in the previous Chapter that the Dictionary of Occupational Titles lists 21,741 different occupations.[1] This number is used in the model to indicate the scope of instruction. It is obvious that all 21,741 occuaptions could not receive separate and individual attention at any level of the program. Rather, examples would be used from all major occupational areas. The important point is that youngsters would have an opportunity to understand the entire scope and variety of the world of work and would participate in certain types of exploratory experiences which would be representative of all occupational fields.

The cluster courses in the late senior high school should cover virtually all occupations. Actual training, however, can be given in only a few representative occupations within each cluster. The cluster course of study should be designed so that instruction is given which is basic to most of the occupations within the

---

[1] Ibid.

cluster. For some youth, specific skill development will be necessary at this level to enable them to secure a job upon leaving high school.

The post-secondary phase of the model should provide instructional programs which are needed for the particular labor market served by each institution. Some programs will be designed to serve a national labor market, others for the State, and still others for local labor market needs.

Courses and curricula for the model. At the elementary and junior high school levels, instruction designed to develop an awareness of the occupational world could be integrated as part of the total program. Separate courses would not be necessary. Elementary level reading materials are available which would be useful in this effort. Educational television has potential for developing this awareness. Information about occupations could become part of the science, social studies, and fine art programs in the junior high school.

At the early senior high school level, the occupational world could be divided into four broad categories for the purpose of providing exploratory experiences. These categories are:

1. Materials and processes
2. Energy and propulsion

3. Visual communication

4. Personal services

All occupations can be classified into one of these categories. These four categories have been developed into courses in the Detroit Public Schools and are being used to provide exploratory experiences.[1]

"Materials and processes" would include all occupations that deal primarily with the procurement, utilization, or processing of various materials, such as metal, wood, ceramics, soil, plastics, fiberglas, etc.

"Energy and propulsion" would include those occupations that involve the use of energy sources, such as electrical, nuclear, solar, hydro, and chemical. It also involves the use of these energy sources for propulsion on land, sea, and in the air.

"Visual communications" would involve occupations associated with art, drafting, printing, writing, most types of office work, etc.

"Personal services" involve any occupation that provides a direct service to the human being. Included would be health services, commercial foods, cosmetology, performing arts, recreation services, protection services, etc.

---

[1]Detroit Public Schools, "The Detroit or Galaxy Plan for Career Preparation" (Division for Improvement of Instruction, 1966), (Mimeographed.)

At the late senior high school level, the four broad categories could be divided into twelve to fifteen clusters of occupations. These clusters should be determined by critically analyzing the commonalities among various occupations. Such an analysis is beyond the scope of this study. Several research efforts are now underway to arrive at logical occupational clusters. These were reported in Chapter II.

Occupations may logically be grouped in several different ways. Groups may be developed based on common skills, knowledge, and understandings. Another method is to group occupations according to common processes, products, or services. This latter method might be considered to be a "job family" approach and represents the type of grouping used in this study to suggest clusters of occupations. For illustrative purposes, the following groups of occupations would appear to have certain commonalities and might make logical groupings. Such groupings should, of course, be verified through additional research.

1. Office occupations
2. Graphic reproduction and drafting occupations
3. Farming, forestry, and related occupations
4. Metal processing occupations
5. Construction occupations
6. Automotive service and repair occupations
7. Food service occupations

8. Health occupations
9. Electricity-electronics occupations
10. Journalism and writing occupations
11. Distributive occupations
12. Family and community service occupations

Perhaps a few additional clusters should be added. Any attempt to arrive at a complete list of clusters presents numerous problems. In any list, there probably will be some occupations which practically cannot be included for various reasons.

The senior high school occupational preparation program should be adaptable to the needs of several types of students. Each of the clusters should have built-in flexibility sufficient to provide somewhat different instruction for these several groups.

Those students who will seek employment immediately upon leaving high school should develop sufficient salable skills to enable them to compete successfully for entry-type jobs. This will require considerable shop-laboratory instruction in one of the cluster areas.

Students who will continue their vocational education in a post-secondary institution need to acquire the basic underlying knowledge and skills for their chosen occupational area. The cluster instruction should provide the base upon which the post-secondary curriculum can be built.

Students who expect to acquire a four-year college degree can use the clusters for securing a background of knowledge. Both of the latter two groups may use the clusters for additional exploratory purposes. Students who aspire to professional occupations requiring a baccalaureate or higher degree would probably be able to spend much less time in the cluster programs than other groups. Their instruction would involve more lecture and demonstration work as contrasted with the other groups who would be involved in more shop and laboratory activities.

Students with special needs. In some areas of our larger cities where socio-economic levels are particularly low, it may be necessary to start the entire occupational preparation program earlier. Typically, in these areas, school dropout rates are relatively high and it would probably help to involve youth in vocational education programs at an earlier age than indicated in the model.

The Detroit Public Schools have recognized this problem and begin the broad exploratory programs while students are still in junior high school.[1] This earlier programming could conceivably serve one of two purposes. It might serve to motivate students sufficiently so that they would continue their schooling longer than might otherwise be the case or it could provide potential drop-

[1] Ibid.

outs with salable skills before they leave school thus making their transition into the labor market smoother.

Children with mental and physical handicaps could, to the extent possible, participate in the regular program. However, many of these youth need special programs and their vocational preparation should be a part of such programs.

Suggested Organizational Patterns for Implementing the Model Occupational Preparation Curriculum

This section presents suggested organizational patterns for vocational education at the local level in Michigan. It is followed by a rationale for the structure.

The structure is designed around two main factors: (1) population density, and (2) taxable wealth. It was shown in Chapter II that these two factors form the basis for the area vocational education concept. Sufficient students and sufficient financial resources must be present in order to justify adequate vocational education programs. In most areas of the state, there is a direct relationship between population density and taxable wealth.

Organizational patterns. The following structure is proposed for providing vocational education in Michigan:

1. Individual high school districts.
    a. Each district should evolve in its elementary and junior high schools a program which will develop an awareness of the occupational

world. In some districts, because of certain socio-economic conditions, it may be desirable for the junior high schools to begin exploratory occupational experiences.

b. Each high school within each district should provide (usually during the ninth and tenth grades) occupational exploratory experiences.

2. Secondary area vocational centers.

a. Secondary area vocational centers should be established throughout the State to serve minimum high school enrollments of 6,500. Because of commuting problems, some area centers will have to be established which serve fewer students.

b. In densely populated areas, secondary centers could be established under one of the following patterns:

(1) Several secondary districts could provide cooperatively an area vocational education program using: (a) facilities at one of the high schools, or (b) separate facilities operated by one of the cooperating school districts. If developed, separate secondary centers should be available for community

college operated post-secondary programs when not being used for secondary programs. Secondary centers should be financed by an intermediate district tax, by tuition, or by an inter-governmental contract among the cooperative districts.

(2) A community college district could operate a secondary center as well as the post-secondary area vocational-technical program. This could be done either: (a) at the site of the community college, or (b) at a secondary center built apart from the community college. Such programs could be financed either by a tax levied by the community college district or by an intermediate school district tax.

c. In sparsely populated areas, secondary centers could be established and operated by community college districts. Due to the sparsity of school population and the accompanying low taxable wealth in most of these areas, duplication of area vocational facilities at both the secondary and post-secondary levels usually cannot be justified.

The community college, with its area-wide taxing powers, can in most instances, provide programs for both secondary and post-secondary vocational students.

If travel distance to the college site is excessive, secondary area vocational programs could be developed to the extent possible as additions to present secondary offerings in one of the cooperating schools.

Extensive secondary centers separate from a community college should not be developed in sparsely populated areas. If a community college is not present and a secondary center is needed before the establishment of a community college is feasible, then secondary centers should be developed with the expectation that they could eventually become comprehensive community colleges.

3. Post-secondary area vocational centers.

In Michigan, the community college should serve as the post-secondary area vocational center. In order to avoid unnecessary duplication of effort and possible competition for students, the community college should operate, or at least coordinate, all post-secondary vocational-technical programs offered

within the community college district. In some of the larger cities, however, it may be desirable for the secondary schools to continue providing adult vocational education for the convenience of potential enrollees.

Four-year institutions of higher education in Michigan should offer only those very specialized post-secondary and adult programs of less than baccalaureate degree level which community colleges cannot provide and which need to be offered in but one or two locations in the State.

Some areas of the State do not readily fit either the "densely" or the "sparsely" populated categories. In these situations, either pattern could develop successfully for the establishment of secondary area centers. Organizational patterns for vocational and technical education in every area should be determined only after intensive study of each situation.

Rationale for Using the Intermediate School District or the Community College District as an Organizational Base

The alternative of a superimposed vocational district.

Some type of broad organizational base is essential for successful area vocational programs in order to secure sufficient enrollment and financial support. Earlier in this study, it was shown that most Michigan school

districts lack the resources to provide adequate vocational education programs. An alternative to using either the intermediate district or the community college in order to secure the broad base needed would be to form a superimposed area vocational education district. This pattern has been followed in some states.

The formation of superimposed districts would create another governmental unit with taxing and administrative powers. At the present time, in Michigan, there are three principal types of educational districts: (1) high school districts, (2) intermediate school districts, and (3) community college districts. The entire state is rapidly becoming covered with all three types of districts. A fourth type of district would make coordination of programs and administration increasingly difficult. It should be possible to provide area vocational programs without creating a new type of school district.

Financial considerations. In Chapter II, it was pointed out that approximately $2,000,000 is required for capital investment in order to provide an adequate secondary area vocational education program. Table 5 presents data showing the state equalized valuation needed in order to finance a long-term bond issue to raise this amount of money. There is, of course, no standard answer to the question of how much valuation is

TABLE 5

NECESSARY STATE EQUALIZED VALUATION IN ORDER FOR A LOCAL DISTRICT TO RAISE $2,000,000 @ 1, 1.5, AND 2 MILLS FOR VARIOUS BOND TERMS @ 4.5% INTEREST

Length of Bond in Years	Total Bond Cost	Amount of Necessary State Equalized Valuation		
		1 Mill	1.5 Mills	2 Mills
10	$2,528,000	$252,800,000	$168,533,333	$126,400,000
15	2,793,000	186,200,000	124,133,333	93,100,000
20	3,076,000	153,800,000	102,533,333	76,900,000
25	3,370,000	134,800,000	89,866,667	67,400,000
30	3,684,000	122,800,000	81,866,667	61,400,000

Source: Calculations were based on serial bond amortization tables contained in Local Programs for Financing School Building Construction, Bulletin No. 423, Michigan Department of Public Instruction, Lansing, 1958.

necessary to finance an area vocational center. This will depend upon the willingness of the voters to add additional taxation. Recognizing that additional funds will be required for operational expenses, it seems reasonable to assume that most areas of the state would not wish to add more than two mills of additional taxes. Analysis of Table 5 would suggest that somewhere in the neighborhood of $100,000,000 valuation could be considered to be the minimum necessary for adequate financing.

Table 6 shows that only thirty-three of Michigan's 529 high school districts have property valuation of $100 million or more. This would indicate that very few districts have sufficient financial resources to offer adequate vocational education programs.

How do the intermediate districts compare with the $100 million minimum valuation? Appendix E presents the state equalized valuations of Michigan's sixty intermediate school districts. Forty-three of these districts have valuations in excess of $100 million. Over seventy-one percent of the intermediate districts possess sufficient tax base to justify the establishment of one or more area vocational education programs. Projected intermediate district consolidation would reduce the number of intermediate districts to thirty-one.[1]

---

[1]Interview with George Schutt, Assistant Superintendent for Administrative Services, Michigan Department of Education, on December 28, 1966.

TABLE 6

NUMBER OF MICHIGAN SCHOOL DISTRICTS WITH $75, $100, AND $130 MILLION STATE EQUALIZED VALUATION FOR 1964-65

Valuation	Number of Districts
$130 Million or more	24
$100 Million or more	33
$75 Million or more	45

Source: Michigan Department of Education, unpublished records.

It is conceivable that most, if not all, of these thirty-one would have over $100 million in valuation.

Table 7 compares the valuations of Michigan's twenty-seven community college districts. Twenty-three of these districts have valuations in excess of $100 million.

It is clear that either the intermediate school district or the community college district in Michigan provides a much sounder financial base for the development of area vocational programs than do the high school districts.

Enrollment considerations. Table 1, page 30, shows that there are only seven Michigan high school districts with secondary enrollments in excess of 6,000. Information presented in Chapter II indicated that

TABLE 7

STATE EQUALIZED VALUATIONS FOR MICHIGAN COMMUNITY COLLEGE DISTRICTS FOR 1965-66

Community College District	Valuation
1. Alpena	$129,722,684
2. Bay DeNoc	76,332,916
3. Delta	1,381,142,564
4. Flint	805,705,557
5. Glen Oaks	168,000,000
6. Gogebic	46,452,134
7. Grand Rapids	621,450,090
8. Henry Ford	655,503,797
9. Highland Park	189,854,794
10. Jackson	411,594,500
11. Kalamazoo	606,809,000
12. Kellogg	192,195,608
13. Kirtland	109,664,000
14. Lake Michigan	500,192,195
15. Lansing	827,069,533
16. Macomb	1,624,111,935
17. MidMichigan	74,999,000
18. Monroe	373,020,900
19. Montcalm	129,084,829
20. Muskegon	485,112,300
21. North Central	56,212,094
22. Northwestern	102,661,408
23. Oakland	2,447,383,400
24. Port Huron	116,307,310
25. Schoolcraft	615,399,979
26. Southwestern	109,447,756
27. Washtenaw	724,552,907

Source: Michigan Council of Community College Administrators, Unpublished records.

approximately 6,500 is the minimum enrollment necessary to justify an adequate area vocational education program. With few exceptions, the high school districts singly do not have sufficient enrollments to justify adequate programs.

Appendix F presents secondary enrollments in the sixty intermediate school districts. Sixteen of these districts have sufficient enrollments for an area vocational program. It is clear, however, that in the sparsely populated sections of the State the intermediate district does not have the necessary enrollment to be used as a base for establishing area programs. It is suggested that in these sections, the evolving community college system be used as the base.

Proposed plans for vocational education in Huron, Sanilac, and Tuscola Intermediate Districts illustrate a possible organizational pattern for sparsely populated areas. It is proposed that these three intermediate districts form a single community college district and that the community college operate the necessary secondary area vocational centers as well as a post-secondary center.[1]

---

[1]Max S. Smith, et al., Final Report: Three County Area High School and Post-High School Educational Needs Study Committee of Huron-Sanilac-Tuscola Counties (East Lansing: Michigan State University, Office of Community College Cooperation, 1966).

Future role of the intermediate school district.

Under present State legislation, it is not permissible for the intermediate district to actually operate an area vocational center. As described in Chapter III, the intermediate districts can form the financial base for area programs but they cannot operate them. It would seem inadvisable to permit intermediate district operation at this time due to the limited size and scope of many intermediate districts. If, through consolidation, the number of intermediate districts were sufficiently reduced in the future, operational status might be desirable.

Rationale for Using the Community College as the Post-Secondary Area Vocational-Technical Education Center

The alternative to using the community college.

The alternative to using the community college for providing post-secondary vocational-technical programs would be to establish a system of post-secondary vocational-technical institutions parallel to the community college system. Several states have done this. Minnesota is in the process of developing a system of post-secondary area vocational schools and at the same time developing a system of junior colleges. It is evident that both types of institutions are striving to become comprehensive post-secondary

institutions which provide both vocational education and general college-transfer programs.[1]

Harold Smith, in arguing against the establishment of a separate post-secondary vocational system in Michigan, said:

> This would be a time-consuming and costly thing to do; and if we read the trends in other states correctly, we should expect these new institutions to become comprehensive over a period of time and to become, in fact, dual-purpose community colleges.[2]

Smith's argument is that a system of vocational-technical institutes separate from the community colleges would, over a period of time, actually become community colleges. Thus, it would seem to be senseless to develop such a system which could only serve to delay the orderly development of the comprehensive community college system in Michigan.

Need for coordination. In addition to the direct competition for finances and students which a separate system of technical institutes would create, there is another important problem which would be harder to solve. There undoubtedly are a number of occupational program offerings for which the post-secondary

---

[1]William C. Knaak, "An Analysis of Vocational-Technical Training in Minnesota", in Harold T. Smith, op. cit., p. 135.

[2]Harold T. Smith, op. cit., p. 19.

institution should assume responsibility and which need relatively few workers. In such cases, every institution should not offer these programs. The need for coordination so that program offerings approximate labor market needs is evident. Such coordination would be considerably more difficult in the face of competing post-secondary systems.

Arguments for a Complete Community College System in Michigan

The organizational patterns suggested earlier in this Chapter, are predicated on the entire state eventually becoming part of a community college district. Michigan now has twenty-seven community college districts and it is anticipated that the entire state would be covered with the establishment of approximately thirty-five community colleges. A state plan is currently being developed which would become the basis for completing the community college system.[1]

The community college is a unique institution in this country with unique purposes. The purposes of a comprehensive community college are unlike the purposes of any other institution in our public educational system. The Michigan Council of Community College

---

[1]Interview with John Porter, Associate Superintendent, Bureau of Higher Education, Michigan Department of Education, on November 3, 1966.

Administrators has defined the purposes of the community college in Michigan to provide the following programs:

1. Guidance, Counseling, and Placement Services
2. Programs that can be transferred to four-year colleges and universities
3. Training preparatory to employment or improvement in employment, and retraining to meet technological change
4. Continuing education for cultural, civic, and avocational growth
5. Community service programs[1]

These purposes are essential components of a complete state educational system and they embody certain elements vital to a comprehensive system of area vocational-technical education programs.

An alternative to a complete community college system. As an alternative to having all areas of the State included in a community college district, some of the four-year colleges and universities could serve a community college function for a particular area of the State. This would seem to be a far less desirable alternative to a complete community college system. Particularly for vocational education and community service programs, the community college with its closer

---

[1]Michigan Council of Community College Administrators, The Role and Character of Michigan Community Colleges, op. cit., p. 2-3.

community roots and local control would seem to be much better suited than the four-year institution. It is entirely conceivable that the four-year institution would consider it "beneath its dignity" to provide lower skill level post-secondary vocational programs. It is even more questionable that they would look with favor upon offering vocational programs for high school students in the sparsely populated areas of the State.

The arguments are strongly in favor of utilizing the community college in Michigan as the institution to provide needed post-secondary area vocational programs.

Alternative for Secondary Vocational Education in Sparsely Populated Areas

It is suggested that the community college provide both secondary and post-secondary area vocational programs in sparsely populated areas. It is further suggested that where commuting distances are excessive, secondary area programs with limited program offerings be provided as additions to present offerings in one of the cooperating schools. An alternative to this method would be to provide dormitory facilities in centralized locations in order to provide desirable program scope. This could be done for secondary students on community college campuses in such areas.

Relationship Between the Secondary Area Center and Individual High Schools

It is proposed that the model organizational patterns for area vocational programs described earlier in this Chapter, be implemented in such a way that high school students attending a secondary area center retain their identity with their home high school. The secondary area vocational center should be considered as a department of vocational education for each of the cooperating high schools. Students could attend on a part-time basis and receive their general and academic education in their home high school.

This method of operation would retain the advantages of the comprehensive high school and would in fact permit the high schools of the State to become truly comprehensive. Students of high school age would not be segregated into a "vocational" or "academic" category quite to the extent they would be if some of them enrolled in a "vocational high school" full-time for all their work. The implementation of this concept would have the added advantage of more easily permitting a student to change his mind regarding a career choice during his high school experience.

Analysis of the Area Vocational-Technical Education Studies

Thirty-eight "area vocational-technical education studies" have been completed or are currently underway

in Michigan. These studies are designed to provide long-range planning for meeting vocational education needs in the State. They all have three primary objectives: (1) to determine what vocational training programs are needed, (2) to determine where these programs should be located (organizational pattern), and (3) to determine how they can be financed.[1] Map I shows the location of these studies and indicates that most of the State is involved in this effort.

Twenty-one studies were completed by December, 1966. Selected data from these completed studies were compiled and are presented in Table 8.

All but three study areas have state equalized valuations in excess of $100,000,000. Thus, it would seem that they could afford to support adequate vocational programs.

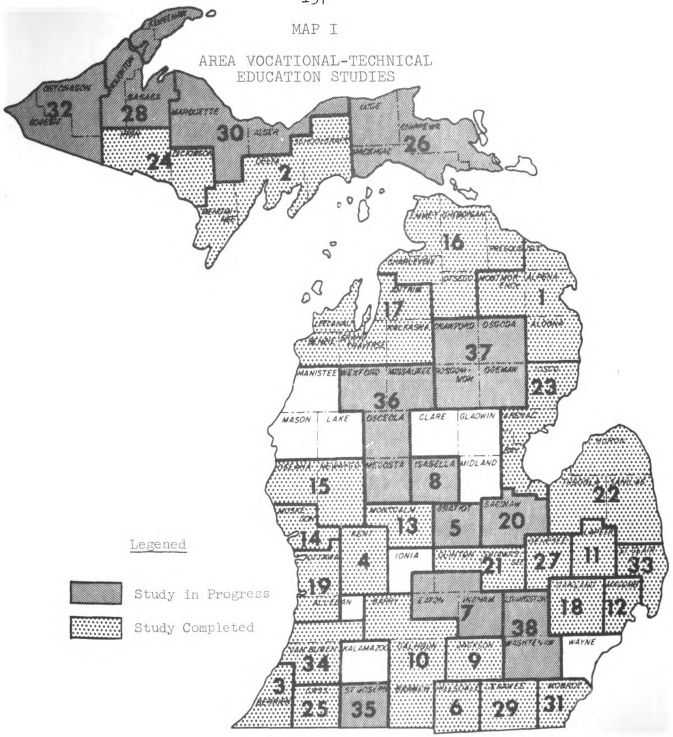
We see, however, that nine of the areas lack the 6,500 secondary students necessary to justify the kind of vocational programs described earlier in this study. In the case of the Oceana-Newaygo area, the study resulted in a recommendation not to establish an area center but rather to cooperate with surrounding areas in order to secure the necessary resources. Most of the other areas with insufficient numbers of secondary students are in

---

[1]Michigan, Department of Education, Area Vocational-Technical Education Studies, op. cit.

MAP I

AREA VOCATIONAL-TECHNICAL EDUCATION STUDIES



Source: See Appendix G.

TABLE 8

SELECTED DATA FROM MICHIGAN AREA
VOCATIONAL-TECHNICAL EDUCATION STUDIES

Area	State Equalized Valuation	Number of High Schools		Total 9-12 Enrollment	Number of Recommended Area Centers	
		Public	Non-Public		Secondary	Post-Secondary
Alpena-Montmorency-Alcona	$ 195,933,576	9		4,077	1	1
Delta-Schoolcraft-Menominee	163,154,000	14	1	4,046	3	1
Berrien	533,752,023	14	3	12,072	2	1
Calhoun-Barry-Branch	611,690,152	20		16,630	2	1
Cass	102,542,000	4		2,163	1	1
Iron-Dickinson	85,049,432	13		4,110	2	0
Jackson	412,931,000	13		9,204	1	1
Kent	1,229,548,306	19	3	28,135	3	1
Macomb	1,638,859,000	21	8	26,913	3-4	1
Muskegon	478,942,870	12	2	6,945	1	1
Ottawa-Allegan	369,589,337	10	2	8,627	1-2	1
Shiawassee-Clinton	264,039,162	10	1	5,096	1	1
St. Clair	427,304,000	11	2	9,639	3	1

TABLE 8 - Continued

Area	State Equalized Valuation	Number of High Schools		9-12 Enrollment	Number of Recommended Area Centers	
		Public	Non-Public		Secondary	Post-Secondary
Huron-Sanilac-Tuscola	$ 388,458,600	26	2	9,236	4	1
Emmet-Charlevoix-Cheboygan-Otsego-Presque Isle	288,924,200	18	3	5,319	3	1
Grand Traverse Area	224,442,984	14	3	6,932	1	1
Oceana-Newaygo	120,510,825	9		1,152	0	0
Hillsdale	88,029,000	8		2,445	1	
Monroe	355,204,040	13	1	8,194	2	1
Genessee	1,583,527,762	21	9	48,120	3	1
Lapeer	97,915,000	5		2,745	1	

Sources: See Appendix G.

sparsely populated sections of the State. These latter studies cover large geographical areas and according to the recommended organizational patterns given in the first part of this Chapter, would not be expected to develop programs of the scope possible in other more populous areas. Sparsely populated areas may have to rely to a greater extent on post-secondary centers where facilities could be available for resident students. As indicated earlier, high schools in these areas should band together within commuting areas to provide as many programs as possible.

As indicated in Table 8, all of the completed area studies call for a drastic centralization of vocational programs. The number of area centers is far less than the number of individual high schools. These recommendations for centralization tend to support the recommended organizational patterns.

Opinion Survey of Local Directors and Consultants of Vocational Education

In developing a rationale for the establishment of area vocational education programs in Michigan, it seemed desirable to secure the opinions of local directors and consultants of vocational education relative to certain aspects of area program development.

Method. Questionnaires were prepared and sent to fifty directors of vocational education in high school

districts, ten directors of vocational education in community colleges, and eight intermediate school district vocational education consultants. These individuals compose the total population of local vocational education administrators in Michigan whose positions are approved for reimbursement from state-federal vocational education funds. Completed questionnaires were returned by forty-eight (or ninety-six percent) of the high school directors, ten (or one hundred percent) of the community college directors, and eight (or one hundred percent) of the intermediate district consultant. Appendix H contains a copy of the cover letter and questionnaire sent to these local administrators.

Analysis of local administrator's questionnaire. Appendix I contains the questionnaire responses from the local vocational education administrators and consultants.

In response to the question regarding their choice for the use of funds for vocational education programs, the respondents did not agree. Almost seventy-three percent of the high school directors favor spending money for secondary programs as their first choice and ninety percent of the community college directors feel that first priority should be for post-secondary programs. The intermediate district consultants were unanimous in placing top priority for the use of funds on secondary programs. It is interesting to note that about twenty-

three percent of the high school directors felt first priority should go to post-secondary students and that almost seventeen percent of the community college directors felt first priority should go to secondary students. These responses are shown in Table I of Appendix I.

This Table also indicates that the high school directors and intermediate consultants would place programs for employed adults in third place while community college directors ranked these programs second.

Table 2 of Appendix I shows the respondent's preferences regarding organizational patterns for high school vocational education programs. All three groups prefer offering high school programs cooperatively on an area basis by several schools. It should be noted that only thirty percent of the community college directors favor the offering of high school vocational programs by community colleges.

Table 3 in Appendix I indicates what the three groups think about the type of high school program which should be provided. Interestingly, none of the respondents thought that high school programs should provide only occupational exploratory experiences. And yet, only a very few thought the high school should train for specific occupations. Perhaps, it is significant

that four respondents did not follow the directions and chose two categories rather than one. The fact that all four chose the same two might indicate that others feel that high school programs should provide both for "exploratory experiences and broad training" and "training for specific occupations" and might have indicated this had they had a chance to do so.

Over seventy-five percent of the total group felt that the high school should provide exploratory experiences and broad training. Over eighty-one percent of the high school directors chose this category.

Table 4, 5, and 6 of Appendix I provide information relative to the labor markets for which vocational programs should be designed. Local vocational administrators and consultants feel that occupational preparation programs, regardless of level, should be planned for all labor markets--local, state, and national. There was a slight tendency toward feeling that high school programs should meet local and state labor market needs rather than national, and that vocational programs in the four-year institutions should be designed for state and national needs rather than those in the local area.

Tables 7 and 8 of Appendix I show the respondents' preferences regarding which institutions should have responsibility for vocational programs for full-time post-secondary students and employed adults. The

respondents do not favor having four-year colleges provide vocational programs for either post-secondary students or employed adults. The community college directors are unanimous in their belief that such programs properly should be the responsibility of the community colleges. The high school directors as a group are not so sure. Though they seem fairly willing to let the community college have major responsibility for post-high school programs (see Table 7), they seem evenly split on who should have responsibility for employed adult programs--area schools or community colleges. The intermediate district consultants would favor having community colleges provide programs for full-time post-secondary students but would have area schools provide vocational programs for employed adults. The consultants were not unanimous in these choices. Three of the eight made opposite choices in response to the two questions.

The respondents' opinions with respect to limiting the more specialized programs to only one or to relatively few institutions are summarized in Table 9 of Appendix I. Most of the respondents were together in their disagreement with the notion that specialized vocational education programs should be limited to only one or to a relatively few institutions in Michigan.

As indicated in Table 10 of Appendix I, there was sharp disagreement among the respondents as to whether

or not most people will receive their specific vocational training after high school. As a group, the high school directors were evenly divided, while the community college directors and intermediate consultants were opposed to each other in their views. As a total group, over fifty-six percent of the respondents agreed that in the future most people will receive their specific vocational training after they leave high school.

The community college directors feel that all post-high school vocational programs should be coordinated or administered by the community college even though some programs for adults might be provided in facilities of the high school districts. The high school directors, as well as the intermediate consultants, disagreed among themselves regarding this idea as indicated in Table 11 of Appendix I.

According to the responses shown in Table 12, Appendix I, it would appear that there is general agreement among the directors and consultants that most high school districts will need to cooperate among themselves if they are to provide adequate programs of vocational education.

Tables 13 and 14, Appendix I, present the respondents' opinions regarding which groups of people would or would not favor the development of vocational programs in such a way that they are cooperatively operated by several

high school districts. Most of the high school directors and intermediate consultants thought that the community college administrators would not favor this development, while most of the community college directors thought the same thing about K-12 district administrators and high school boards of education. Apparently, only "the other group" wouldn't favor. On the other hand, the high school directors and intermediate district consultants felt the groups they represent would favor this development.

Summary comment on questionnaire results. In general, high school directors of vocational programs, community college vocational-technical directors, and intermediate school district vocational education consultants in Michigan seem to favor the development of area vocational programs. They do not agree on who should have the responsibility for vocational education programs. They are undoubtedly biased toward their own particular institution. It appears unlikely that as a group local vocational education administrators and consultants would be in agreement with any single organizational pattern for area vocational programs.

Individual analysis of the returns indicates that opinions regarding organizational patterns depend somewhat on the kinds of working relationships which have

developed among the various institutions. For example, one set of returns from high school directors and the intermediate district consultant who are employed within the boundaries of a community college district which has developed a rather extensive vocational-technical education program, indicate that these people are less reluctant for the community college to assume responsibility for all post-secondary programs than do their counterparts as a group.

Summary

Curricula which are provided for the purpose of developing occupational competency should be designed to accomplish the following objectives:

1. To develop an accurate awareness of the occupational world during the elementary and junior high school years.
2. To provide exploratory experiences in the early senior high school for all students sufficient to enable them to assess their own abilities and interests in terms of the job requirements for major occupational categories.
3. To provide vocational education programs at the senior high school level built around clusters of related occupations which will enable students to either, (a) develop skill, knowledge, and understandings sufficient to enter an

occupation in one of the clusters, or (b) secure the broad basic preparation necessary to successfully complete a vocational preparation program in a post-secondary institution.

4. To provide at the post-secondary level a wide variety of vocational preparation programs designed to give depth training for a particular occupation or for several closely related occupations.
5. To provide opportunities for continuing vocational education for persons who have entered the labor force and who need either job upgrading experiences or retraining programs.

A system of secondary area vocational education centers should be developed in Michigan to provide those programs which the individual high schools cannot justify. In densely populated areas, secondary centers could be developed cooperatively by the secondary schools or developed by a community college. In sparsely populated areas, they should be developed by the community colleges to serve secondary students.

Post-secondary area vocational centers should be developed throughout the State as an integral part of each community college. Certain four-year institutions might provide very specialized vocational programs at the post-secondary level which can be justified in relatively few locations.

Alternatives to these organizational patterns were considered. Arguments were presented in support of rejecting the formation of a superimposed vocational education district, the development of a system of post-secondary technical institutes, the utilization of four-year institutions to provide a community college function, and the development of separate full-time vocational high schools.

The results of twenty-one area vocational-technical education studies conducted in the State were analyzed. It was found that these studies generally supported the rationale for area vocational education programs and the proposed organizational patterns.

As the result of a survey, it was found that high school directors of vocational programs, community college vocational-technical directors, and intermediate school district vocational education consultants in Michigan seem to favor the development of area vocational programs and generally tended to support the rationale presented in this Chapter.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Method Summarized

One purpose of this study was to show why area vocational education programs should be developed in Michigan at both the secondary and post-secondary level. It was also designed to show that these programs are needed now and that they should be developed in Michigan as the means for public education to provide needed vocational preparation.

Another purpose was to develop a model for organizational and curricular patterns for the provision of vocational education at the local level.

Determination of need. The need for vocational education in Michigan was determined through the analysis of empirical data. Pertinent demographic, economic, labor market, and educational data were collected and analyzed.

An analysis was made of the vocational education needs of various groups of people. These needs were determined for youth of high school age, youth enrolled in post-secondary institutions, and employed or unemployed workers.

The type of vocational education needed at each educational level was determined by analyzing studies

and literature dealing with vocational curricula. Broad occupational preparation objectives were suggested for the elementary school, junior high school, senior high school, and community college. In addition, the role of four-year institutions in providing less-than-baccalaureate degree programs was suggested.

Description of needed resources. Several studies dealing with the cost of adequate vocational education programs were reviewed. Data obtained from these as well as information supplied by the Michigan Department of Education were used in arriving at the cost of a comprehensive vocational education program at both the secondary and post-secondary level.

Minimum enrollments required to justify the scope of facilities needed for adequate programs were ascertained by reviewing previous studies and from information provided by the Michigan Department of Education.

Assessment of present programs. Data were collected showing enrollments of high school youth and those enrolled in vocational programs supported by state-federal vocational education funds. These data were compared with the number of youth needing vocational education.

Present vocational program offerings and enrollments were compared with projected employment opportunities.

Review of the development of area vocational education programs. The historical development of vocational education in the United States was traced and the development of area vocational education programs in the country and in Michigan was reviewed.

An extensive review of area program development in Michigan was made. Particular emphasis was given to recent developments which indicate an increasing acceptance of the area vocational program concept.

An assessment was made of existing area vocational programs in the Nation and in Michigan.

Development of a philosophical basis. A philosophy of education was stated together with a philosophy of vocational education. The implications of this philosophy for area vocational programs was determined using the information provided in the first three Chapters for illustrative purposes.

Development of models for curricula and organizational patterns. A model for an occupational preparation curriculum in the public schools of Michigan was developed. The model contained objectives for each educational level and suggested the kind of experiences students should have. It indicated the occupational scope for each level and outlined a broad curricular framework.

Suggested organizational patterns for vocational

education in Michigan to implement the model curriculum were outlined. Organizational patterns were suggested for sparsely and densely populated areas of the State.

An analysis was made of twenty-one area vocational-technical education studies recently completed in Michigan to determine the extent to which they confirm the findings of this study.

A survey was conducted of local directors and consultants of vocational education in Michigan to secure their opinions relative to the development of area vocational education programs in Michigan.

Findings and Conclusions Summarized

The area vocational education concept. Small secondary schools find it difficult to provide the diversified programs required to meet the goals of modern education. Two major problems face small schools in their attempt to provide vocational education. They lack sufficient funds and they lack sufficient numbers of students to justify or afford adequate vocational programs.

As a result of this situation, some states have developed organizational structures whereby several school districts can cooperatively provide needed specialized vocational curricula. These "area vocational education programs" are merely a technique for gathering together sufficient resources so that broad occupational preparation programs can be provided for both youth and adults.

Several different types of organizational patterns have been developed in the country for area vocational programs. The more common types are: (1) decentralized area vocational programs which make arrangements for exchanging students among schools that each provide different kinds of vocational training, (2) expansion of the area served by a vocational school to include contiguous non-serviced territory, (3) a separate school for vocational education, built and maintained separately by two or more existing school districts or units, (4) county units established as a basis for vocational education within a county or group of counties, (5) county schools controlled and financed jointly with the state, and (6) state controlled and financed vocational schools serving regions or areas of a state.

Area vocational programs may be operated at both the secondary or post-secondary level. A variety of institutions have been utilized for providing area programs. Cooperating high school districts, community colleges, technical institutes, and separate vocational school districts have all been used to provide area programs.

Need for a rationale for area programs in Michigan. Considerable evidence exists regarding the need to combine resources on an area basis in order to provide

adequate vocational education programs. Considerable confusion, however, exists on the part of educational administrators and their boards of education or boards of trustees in Michigan concerning the establishment of vocational programs on an area basis. The role of various educational institutions for vocational education at the secondary and post-secondary levels needs to be defined. A rationale for the establishment of area programs is needed which is based on a sound philosophy of vocational education and which can serve as a basis for the formulation of policy at the state and local level relative to organizational patterns and administrative responsibilities. Assurance needs to be given that the development of area vocational education programs will enhance the total educational process rather than establish a system which would be in conflict with sound educational practice and administration.

The need for vocational education. Various national educational groups and commissions have on numerous occasions issued statements relative to the purposes of education. These statements of purpose have recognized vocational education as an important function of public education and one which provides the means for developing salable skills, understandings, and attitudes necessary to make the worker an intelligent and productive participant in society.

Vocational education is needed by three main groups of people: (1) youth enrolled in high school who will either drop out before graduation or will terminate their formal education with high school graduation, (2) youth enrolled in post-secondary educational institutions who will not attain a baccalaureate or higher degree, and (3) employed or unemployed workers who require job upgrading or retraining experiences in order to achieve stablility or advancement in employment.

Latest available data from the Michigan Department of Education indicate that approximately seventy-five percent of the ninth graders in Michigan will terminate their formal schooling at or before high school graduation. These persons need to acquire some type of salable skill before they leave high school if they are to compete successfully in the labor market.

By 1980, it is estimated that Michigan's labor force will total almost four million. Indications are that many people will have to retrain themselves for several different jobs during their working life. In addition to this training need, there were approximatly 98,000 unemployed workers in Michigan in 1966. Many of these people need retraining in order to secure satisfactory employment.

Vocational education is a key element in meeting labor market training needs. Training opportunities must be provided for the unemployed and the employed as well as for those who are preparing for their first job.

Types of vocational education needed in Michigan. Occupational preparation should be thought of as a continuum embracing educational experiences from the time a youngster begins his formal education until he completes his working life. Each educational level--the elementary school, the junior high school, the high school, the community college, and the university--must play a unique role in preparing the individual for the world of work.

Children should begin to acquire an understanding of the world or work while enrolled in elementary school. This process of providing information about the world of work should be continued and expanded in the junior high school.

In the early senior high school, students should be exposed to exploratory occupational experiences. These experiences should acquaint students with the basic requirements of various occupations and, to the extent possible, provide an opportunity to try some skills and abilities required by various occupations.

Vocational education in the late senior high school years should provide for the needs of two groups of

students: (1) those who plan to enter the labor market immediately upon leaving high school, and (2) those who plan to continue their vocational education in a post-secondary less-than-baccalaureate-degree program. Vocational programs at this level should be designed to provide the basic skills and knowledge underlying a cluster of related occupations. Salable skills need to be developed by those who will not continue their formal education and a basic background of preparation provided for those who will continue.

Post-secondary vocational programs should provide the more specialized preparation required by a changing technology. Such programs should be available for full-time students, persons in the labor force who wish to secure job upgrading or retraining, and unemployed workers who need to be retrained.

Resources needed for adequate vocational programs. Recent Michigan and national studies and data suggest that a capital investment in the neighborhood of $2,000,000 is required for adequate secondary area vocational programs and over $3,000,000 for post-secondary programs. These figures are based on the philosophy that each student should have available to him the opportunity to secure the kind of vocational education which will best prepare him for his chosen occupation. In order to achieve this goal, vocational education programs should

be defined in terms of the scope of offerings needed. Adequate programs can then be translated into financial requirements and the number of students needed to justify providing such programs.

A high school population of over 6,500 is needed in order to generate sufficient enrollments to efficiently utilize adequate secondary area vocational education facilities.

Minimum projected enrollments of 1,000 full-time students are suggested in order to provide adequate vocational-technical programs in community colleges. This latter figure is based on the assumption that one-half of this total will enroll in vocational-technical programs.

Inadequacy of existing vocational education programs. Enrollment data indicate that sufficient numbers of youth are not presently enrolled in vocational education programs in Michigan. Inadequate scope of offerings and their quality are probably major reasons for relatively low vocational enrollments.

Comparisons between labor market data and enrollments indicate that existing vocational programs are not providing trained persons in sufficient numbers for many of the fastest growing occupational areas. One of the reasons, no doubt, is that vocational programs are conducted by a large number of small administrative units in Michigan which are unable to provide broad programs.

The development of area vocational education programs. Colonial America relied primarily upon the apprenticeship system for vocational education. This was gradually replaced by instruction provided in the public schools and various private institutions.

Federal financial participation in vocational education programs gave impetus to the movement. The federal Vocational Education Act of 1963 directly encouraged the development of area vocational programs for the first time in federal legislation.

A few area vocational programs were developed early in the history of public vocational education in this country. Connecticut was one of the first states to establish a state system of area vocational schools. Many of the large cities had vocational schools in the early part of the century which served the entire city.

In recent years, increased emphasis has been given to developing systems of area vocational programs by a number of states. These efforts have been encouraged by the federal government and the American Vocational Association.

Until very recently, efforts in Michigan to establish area vocational programs have met with little success. During the past five years, several significant studies and reports have appeared which encourage Michigan to develop area programs. The State Legislature has enacted

several laws which facilitate the establishment of such programs and many areas of the State have been involved in studies with the purpose of developing area vocational programs.

There are no cooperatively operated centralized secondary area vocational programs in Michigan at the present time. A few such facilities are under construction. Michigan's community colleges serve as post-secondary area vocational centers.

Philosophical basis for area vocational programs. Democracy is a form of associated living which permits and even encourages the constant reconstruction of basic patterns of living. Freedom of occupational choice is an important concept present in a democratic society. Regardless of ancestral or cultural background, each individual must have the opportunity to prepare for and enter the occupation of his choice within the limits of his abilities if a society is to consider itself truly democratic. Furthermore, the opportunity to change his occupation if he so desires must also be available. To provide these opportunities, vocational education programs which are broad in scope must be readily available to all individuals.

In Michigan, larger administrative units for vocational education are necessary if schools are to provide extensive opportunities for occupational

preparation. Programs which utilize the intermediate school district and/or the community college district as an organizational base would more nearly provide the resources necessary for adequate vocational education programs.

Curriculum model for occupational preparation. A curriculum model was developed which would provide an integrated occupational preparation program encompassing all educational levels. This model would develop an awareness of the occupational world during the elementary and junior high school years. Occupational exploratory experiences would be available in the early senior high school and vocational education programs at the late senior high school level would be built around clusters of related occupations. Post-secondary institutions would provide opportunities for continuing occupational preparation.

Up to and including the late senior high school, programs would be developed so that they cover all occupations. Specific skill development would be provided for a few occupations in the late senior high school for those students who do not plan to immediately continue their education after they leave high school. Post-secondary programs would provide more specific training for the needs of the particular labor market served.

Activities designed to develop an awareness of the occupational world would be integrated into the regular school program during the elementary and junior high school years. In the early high school, four courses would be developed to provide exploratory experiences for all students. These four courses would cover all major occupational areas. Training programs would be provided for clusters of closely related occupations in the late senior high school. It is suggested that this training could be provided in from twelve to fifteen clusters, however, additional research is necessary before specific clusters can be identified with confidence.

At the post-secondary level, it is suggested that probably something in excess of thirty different courses or curricula will be needed depending upon the particular labor market served. Many post-secondary programs will be designed to serve state-wide or national labor markets.

Suggested organizational patterns for vocational education in Michigan. Secondary area vocational education centers should be established throughout the State to serve minimum high school enrollments of 6,500 students. It is recognized that because of commuting problems, some secondary area centers will have to be established which serve fewer students.

In densely populated areas of the State, secondary vocational centers should be established cooperatively by several secondary school districts or operated by a community college district upon the request of the secondary districts. If developed cooperatively by secondary districts, an area center should be financed by an intermediate school district tax, by tuition, or by inter-governmental contract among the cooperating districts.

If secondary centers are to be established by a community college district in densely populated areas, they could be financed either by a tax levied by the community college district or by an intermediate school district tax.

In sparsely populated areas, secondary centers should be established and operated by community college districts. Due to sparsity of school population and the accompanying low taxable wealth in most of these areas, it would be more efficient and economical for the community college, with its area-wide taxing powers, to provide programs for both secondary and post-secondary vocational students.

If travel distance to the college site is excessive in sparsely populated areas, secondary area vocational programs could be developed to the extent possible as additions to present secondary offerings in one of the

cooperating schools. Extensive secondary centers separate from a community college should not be developed in sparsely populated areas. If a community college is not present and a secondary center is needed before the establishment of a community college is feasible, then secondary centers should be developed with the expectation that they could eventually become comprehensive community colleges.

The community college should serve as the post-secondary area vocational center in Michigan. In order to avoid unnecessary duplication of effort and possible competition for students, the community college should operate, or at least coordinate, all post-secondary vocational-technical programs offered within the community college district. In large cities, it may be desirable for the secondary schools to provide adult vocational education for the convenience of potential enrollees.

Those areas of the State that do not readily fit either the "densely" or the "sparsely" populated categories could successfully develop secondary vocational centers by following the organizational suggestions for either area.

Area vocational-technical education studies. The twenty-one completed area vocational-technical education studies completed in the State support the centralization of vocational education programs as recommended in this

study. All area studies have recommended the establishment of secondary area centers or the utilization of centers to be established in neighboring areas. In each case, the community college system is expected to provide the post-secondary area vocational center, sometimes serving two or more of the study areas.

Survey of local directors and consultants of vocational education. As a part of this study, the opinions of local directors and consultants of vocational education were secured relative to the development of area vocational programs in Michigan. These people seem to favor the development of area programs, however, they do not agree on who should have the responsibility for such programs. They tend to favor their own particular type of institution. It was concluded that as a group they would be unlikely to be in agreement with any single organizational pattern for the establishment of area vocational education programs.

Recommendations

The following recommendations are made as a result of conducting this study:

1. Development of curriculum philosophy. The Michigan Department of Education should develop and publish a statement of curriculum philosophy concerning vocational education in Michigan's educational system. Such a statement

should be developed with the assistance of educators and industry, business, and community leaders throughout the State. The role of various educational levels and institutions should be defined and the objectives in terms of occupational preparation for each level should be outlined. This statement would be extremely helpful to local educational administrators as they plan curriculum and organizational structures. The statement should contain a clear definition of the role of area vocational education centers and their relationship to existing educational facilities.

2. Research needed on occupational clusters. Research needs to be conducted in order to determine specifically the clusters of closely related occupations. Information is needed regarding the type of training which educational institutions should provide for these clusters.
3. Curriculum development assistance needed. Once the clusters are determined, curriculum guides need to be prepared for teacher use. Because vocational educators do not typically think in terms of broad clusters of occupations when developing training programs, it is particularly

important that curriculum development assistance be provided.

Research should be conducted to determine the most promising methods of teaching the clusters. The value of such things as team teaching and multi-laboratories vs. large single laboratories should be determined. Answers are needed to questions such as how can individualized instruction be effectively provided in cluster programs.

4. Teacher education. A critical appraisal of vocational teacher education programs should be undertaken in Michigan. New curriculum approaches in vocational education raise serious doubts regarding the adequacy of present teacher education programs. Perhaps a special task force should be appointed by the State Board of Education to study this situation and make specific recommendations.

   Studies should be undertaken to determine how teachers can be prepared to teach in an occupational cluster.

5. Organizational policy. The State Board of Education should take the necessary steps to develop and adopt an official policy relative to organizational patterns for the establishment

of area vocational programs at both the secondary and post-secondary level. Such an official policy would be helpful to local educational officials particularly in view of the fact that the availability of state and federal vocational education funds for the construction of area centers is dependent upon State Board designation and approval.

6. Area program state plan. A state plan suggesting the location and service areas for a system of secondary and post-secondary area vocational centers should be developed and adopted by the State Board of Education. This plan should be based on the area vocational-technical education studies conducted locally throughout the State and on an organizational policy statement which it is also recommended that the State Board adopt. Such a state plan would provide for the orderly development of a state-wide system of area centers and would also serve the purpose of demonstrating to the State Legislature the need for financial assistance throughout the State for this purpose.

7. State plan for community colleges. The State Board of Education should adopt a state plan for the establishment of any needed additional community colleges. This plan should include a

map showing suggested district boundary lines. The plan should be developed and recommended to the State Board of Education by the State Board for Public Community and Junior Colleges. The development of such a state plan would greatly assist in establishing post-secondary area vocational centers.

8. State financial support. It is recommended that the State Legislature appropriate sufficient funds to insure the rapid development of both secondary and post-secondary area vocational programs. This support should be in the form of both capital outlay and operational monies.

9. Residential school study needed. A study is needed to determine the feasibility of establishing residential area vocational schools for high school students in those sections of the State where the population is too sparse to justify providing broad vocational programs within commuting distance. Such a study should explore other alternatives for providing adequate vocational programs.

10. Finance study needed. Studies should be undertaken to determine detailed actual cost of adequate vocational education programs and the most desirable way in which these costs can be

met. The proportional share of federal, state, and local support should be determined for Michigan and methods for securing these funds determined.

APPENDICES

APPENDIX A

ENROLLMENT IN GRADES 9-12 BY COUNTY FOR 1963-64, MICHIGAN

County	9-12 Enrollment	County	9-12 Enrollment
Alcona	330	Iron	1,341
Alger	802	Isabella	2,025
Allegan	4,270	Jackson	8,129
Alpena	1,823	Kalamazoo	10,654
Antrim	621	Kalkaska	331
Arenac	749	Kent	20,353
Baraga	594	Lake	312
Barry	1,987	Lapeer	2,647
Bay	6,193	Leelanau	512
Benzie	692	Lenawee	5,937
Berrien	11,087	Livingston	2,755
Branch	1,908	Luce	588
Calhoun	9,124	Mackinac	681
Cass	2,163	Macomb	26,913
Charlevoix	1,280	Manistee	476
Cheboygan	869	Marquette	3,470
Chippewa	2,207	Mason	1,577
Clare	1,101	Mecosta	1,518
Clinton	2,626	Menominee	1,860
Crawford	340	Midland	4,176
Delta	2,282	Missaukee	481
Dickinson	1,757	Monroe	6,917
Eaton	3,114	Montcalm	3,023
Emmet	1,073	Montmorency	374
Genesee	26,192	Muskegon	9,053
Gladwin	811	Newaygo	2,032
Gogebic	1,627	Oakland	45,836
Grand Traverse	2,131	Oceana	1,144
Gratiot	2,976	Ogemaw	610
Hillsdale	2,450	Ontonagon	841
Houghton	2,351	Osceola	1,278
Huron	2,776	Oscoda	255
Ingham	14,401	Otsego	471
Ionia	3,206	Ottawa	6,383
Iosco	1,605	Presque Isle	1,055

APPENDIX A - Continued

County	9-12 Enrollment	County	9-12 Enrollment
Roscommon	582	Shiawassee	4,096
Saginaw	13,062	Tuscola	3,391
St. Clair	6,563	Van Buren	3,962
St. Joseph	2,408	Washtenaw	9,550
Sanilac	2,458	Wayne	144,652
Schoolcraft	689	Wexford	1,493
		MICHIGAN	488,432

Source: Michigan Department of Education, unpublished records.

APPENDIX B

NUMBER AND PERCENT OF GRADUATES OF MICHIGAN PUBLIC HIGH SCHOOLS ENROLLED IN COLLEGE BY COUNTIES FOR 1960

County	Number of Public High Schools	Number of Graduates	Number of Graduates in College	% of Graduates in College
Alcona	1	64	28	44
Alger	4	93	22	24
Allegan	8	622	205	33
Alpena	1	278	112	40
Antrim	5	152	60	39
Arenac	3	154	46	30
Baraga	2	131	34	26
Barry	6	416	144	35
Bay	3	1,044	428	41
Benzie	3	117	51	44
Berrien	13	1,619	489	30
Branch	4	370	117	32
Calhoun	9	1,205	435	36
Cass	4	344	99	29
Charlevoix	3	184	62	34
Cheboygan	2	138	30	22
Chippewa	5	385	121	31
Clare	3	181	37	20
Clinton	5	384	104	27
Crawford	1	45	8	18
Delta	5	323	95	29
Dickinson	6	344	119	35
Eaton	9	688	188	29
Emmet	3	202	74	37
Genesee	23	3,463	1,057	34
Gladwin	2	154	39	25
Gogebic	5	394	135	34
Grand Traverse	2	339	171	50
Gratiot	6	534	161	31
Hillsdale	8	482	144	30

APPENDIX B - Continued

County	Number of Public High Schools	Number of Graduates	Number of Graduates in College	% of Graduates in College
Houghton	5	412	146	35
Huron	8	432	103	24
Ingham	13	2,294	999	44
Ionia	5	386	108	28
Iosco	4	253	59	23
Iron	4	276	87	32
Isabella	4	333	106	32
Jackson	12	1,057	431	41
Kalamazoo	8	1,397	571	41
Kalkaska	1	57	16	28
Kent	20	2,834	1,214	43
Keweenaw	0	---	---	--
Lake	2	56	4	7
Lapeer	5	456	151	33
Leelanau	3	54	23	43
Lenawee	11	885	289	33
Livingston	5	394	126	32
Luce	1	90	23	26
Mackinac	2	51	18	35
Macomb	20	3,510	1,043	35
Manistee	6	205	64	31
Marquette	6	515	240	47
Mason	3	278	88	32
Mecosta	5	286	102	36
Menominee	4	313	88	28
Midland	2	614	239	39
Missaukee	2	75	26	35
Monroe	6	899	161	18
Montcalm	9	507	152	30
Montmorency	2	72	26	36

APPENDIX B - Continued

County	Number of Public High Schools	Number of Graduates	Number of Graduates in College	% of Graduates in College
Muskegon	8	1,287	467	36
Newaygo	5	350	105	30
Oakland	27	6,129	2,298	37
Oceana	3	173	41	24
Ogemaw	2	127	21	17
Ontonagon	4	119	39	33
Osceola	4	227	53	23
Oscoda	2	44	13	30
Otsego	2	79	34	43
Ottawa	5	1,049	440	42
Presque Isle	2	146	34	23
Roscommon	2	112	41	37
Saginaw	7	1,824	696	38
St. Clair	7	1,056	354	34
St. Joseph	8	552	204	37
Sanilac	7	419	179	43
Schoolcraft	2	112	36	32
Shiawassee	8	659	218	33
Tuscola	9	623	138	22
VanBuren	11	577	216	37
Washtenaw	8	1,307	599	46
Wayne	49	19,834	6,413	32
Wexford	4	272	68	25
Michigan	520	70,917	24,255	34

Source: Lynn M. Bartlett, Number and Percent of Michigan High School Graduates Who Enrolled in College For The Years, 1955, 1960 (Lansing: Michigan Department of Public Instruction, 1963), p. 4-5.

APPENDIX C

PROJECTED POPULATION OF YOUTH 15-19 FOR 1970 AND 1980 BY COUNTY, MICHIGAN

County	Number		County	Number	
	1970	1980		1970	1980
Alcona	541	458	Iron	1,978	4,732
Alger	875	635	Isabella	3,535	3,732
Allegan	6,234	5,790	Jackson	12,496	12,731
Alpena	3,003	3,220	Kalamazoo	18,751	18,664
Antrim	1,005	881	Kalkaska	438	417
Arenac	868	820	Kent	40,589	41,547
Baraga	722	662	Keweenaw	154	152
Barry	2,844	2,722	Lake	458	406
Bay	10,959	10,868	Lapeer	4,507	4,524
Benzie	650	662	Leelanau	919	852
Berrien	15,934	17,768	Lenawee	7,687	6,618
Branch	3,471	3,316	Livingston	4,499	4,805
Calhoun	13,315	13,176	Luce	630	481
Cass	3,973	3,384	Mackinac	1,057	1,015
Charlevoix	1,316	1,330	Macomb	64,837	97,761
Cheboygan	1,371	1,227	Manistee	1,678	1,880
Chippewa	3,222	4,427	Marquette	5,836	7,966
Clare	1,168	1,299	Mason	1,968	1,923
Clinton	5,462	4,844	Mecosta	1,781	2,251
Crawford	466	559	Menominee	2,475	2,060
Delta	3,589	3,106	Midland	6,597	6,389
Dickinson	2,091	1,823	Missaukee	675	457
Eaton	6,574	5,618	Monroe	11,659	11,886
Emmet	1,561	1,549	Montcalm	3,630	3,774
Genesee	45,070	50,596	Montmorency	410	311
Gladwin	1,075	885	Muskegon	15,897	15,538
Gogebic	1,656	1,177	Newaygo	2,585	2,429
Grand Traverse	3,281	3,179	Oakland	91,721	93,094
Gratiot	3,723	4,019	Oceana	1,554	1,443
Hillsdale	3,141	2,983	Ogemaw	838	779

APPENDIX C - Continued

County	Number 1970	Number 1980	County	Number 1970	Number 1980
Houghton	2,588	2,769	Ontonagon	1,023	973
Huron	3,635	3,121	Osceola	1,334	1,293
Ingham	25,363	27,481	Oscoda	308	332
Ionia	4,491	4,397	Otsego	813	958
Iosco	1,978	4,478	Ottawa	11,900	12,927
Presque Isle	1,366	1,220	Shiawassee	5,972	6,145
Roscommon	661	714	Tuscola	4,541	4,395
Saginaw	21,552	22,628	Van Buren	4,981	5,289
St. Clair	10,621	10,365	Washtenaw	21,263	28,375
Sanilac	3,421	3,268	Wayne	260,186	214,701
Schoolcraft	799	657	Wexford	1,761	1,652
			MICHIGAN	851,189	874,127

Source: Michigan, Department of Commerce, Michigan Population 1960 to 1980 (Lansing: Department of Commerce, 1966).

APPENDIX D

PROJECTED EMPLOYMENT BY OCCUPATION, COMPUTED ANNUAL RATE OF CHANGE, MICHIGAN, 1960-1980

Occupation	Persons Employed			Annual Rate of Change 1960-80
	1960	1970	1980	
Professional	312,590	454,180	685,110	4.0
Engineers, Technical	43,806	65,420	86,880	3.5
Nurses	23,483	31,920	49,040	3.8
Teachers	68,698	90,420	134,810	3.4
All Other Professional and Kindred	176,603	266,420	414,380	4.3
Farm Managers	60,074	38,900	28,600	-3.7
Managers	200,022	253,680	323,170	2.4
Managers, Officials & Proprietors, NEC, Salaried	96,567	133,680	182,260	3.2
Managers, Officials & Proprietors, NEC, Self-Employed	71,441	80,450	93,070	1.3
All Other Managers, Officials & Proprietors	32,014	39,550	47,840	2.0
Clerical	379,592	499,970	675,040	2.9
Bookkeepers	33,980	42,260	51,500	2.1
Cashiers	19,509	24,730	32,460	2.6
Secretaries	54,769	77,280	114,380	3.8
Stenographers	10,979	14,080	18,330	2.6
Typists	21,182	32,105	41,140	3.4
All Other Clerical and Kindred Workers	239,173	309,515	417,230	2.8
Sales	202,416	237,530	285,660	1.7
Salesmen & Sales Clerks	160,097	192,220	232,270	1.9
All Other Sales Workers	42,319	45,310	53,390	1.2
Craftsmen	420,094	464,470	498,540	0.8
Carpenters	25,713	28,870	26,430	0.1
Electricians	15,967	19,230	20,500	1.3
Foremen, NEC	60,179	66,750	70,600	0.8
Machinists	20,015	20,750	20,480	0.1
Mechanics & Repairmen	108,670	128,880	151,720	1.7
Plumbers & Pipe Fitters	13,051	14,920	16,800	1.3
Toolmakers & Die Makers	35,628	39,710	41,230	0.7
All Other Craftsmen, Foremen, & Kindred Workers	140,871	145,360	150,780	0 3

APPENDIX D - Continued

Occupation	Persons Employed 1960	1970	1980	Annual Rate of Change 1960-80
Operatives	606,417	631,340	631,170	0.2
Assemblers	63,350	62,450	56,830	-0.6
Checkers, Examiners, & Inspectors - Manufacturing	39,250	40,900	39,280	--
Delivery & Routemen	18,642	20,150	20,820	0.6
Filers, Grinders, & Polishers - Metal	26,162	28,340	28,350	0.4
Truck & Tractor Drivers	65,347	77,870	93,940	1.8
All Other Operative & Kindred Workers	393,666	401,630	391,950	-0.1
Private Household	58,651	60,700	61,800	0.3
Service	236,427	310,890	437,290	3.1
Attendant, Hospital & Others	18,395	23,160	32,000	2.8
Cooks - Excluding Private Household	20,301	26,970	39,450	3.4
Janitors & Sextons	30,965	38,560	52,870	2.7
Protective Service Workers	30,700	40,170	53,570	2.8
Waiters & Waitresses	37,296	46,570	59,910	2.4
All Other Service Workers	98,770	135,460	199,490	3.6
Farm Labor	25,283	21,100	19,800	-1.2
Labor	109,273	121,500	134,010	1.0
Occupation Not Reported	116,025	133,740	155,810	1.5
Occupation Total	2,726,864	3,228,000	3,936,000	1.9

APPENDIX E

STATE EQUALIZED VALUATIONS FOR MICHIGAN INTERMEDIATE SCHOOL DISTRICTS FOR 1965

	Intermediate District	Valuation in Millions		Intermediate District	Valuation in Millions
1.	Alger-Marquette	$ 169,185	28.	Ionia	$ 116,270
2.	Allegan	173,914	29.	Iosco	77,675
3.	Alpena-Alcona-Montmorency	164,634	30.	Isabella	78,721
4.	Barry	74,865	31.	Jackson	412,931
5.	Bay-Arenac	423,687	32.	Kalamazoo	606,809
6.	Berrien	502,886	33.	Kent	1,229,548
7.	Branch	89,471	34.	Lake	15,756
8.	Calhoun	431,999	35.	Lapeer	97,915
9.	Cass	102,542	36.	Lenawee	255,072
10.	Charlevoix-Emmet	124,772	37.	Livingston	131,176
11.	Cheboygan-Otsego Presque Isle	120,955	38.	Macomb	1,638,859
12.	Chippewa-Luce Mackinac	121,399	39.	Manistee	55,017
13.	Clare	45,771	40.	Mason	66,594
14.	Clinton	102,727	41.	Mecosta-Osceola	110,970
15.	Crawford-Oscoda-Roscommon-Ogemaw	109,664	42.	Menominee	60,162
16.	Delta-Schoolcraft	102,992	43.	Midland	287,143
17.	Dickinson-Iron	118,865	44.	Missaukee-Wexford	66,214
18.	Eaton	135,676	45.	Monroe	361,282
19.	Genessee	1,506,837	46.	Montcalm	129,073
20.	Gladwin	29,228	47.	Muskegon	428,241
21.	Gogebic-Ontonagon	81,243	48.	Newaygo	74,017
22.	Grand Traverse-Kalkaska-Antrim-Benzie-Leelenau	213,767	49.	Oakland	2,477,648
23.	Gratiot	120,046	50.	Oceana	36,953
24.	Hillsdale	88,029	51.	Ottawa	351,624
25.	Houghton-Baraga-Keweenaw	81,963	52.	Saginaw	688,042
26.	Huron	161,148	53.	St. Clair	427,304
27.	Ingham	780,117	54.	St. Joseph	178,701
			55.	Sanilac	122,424
			56.	Shiawassee	158,688
			57.	Tuscola	149,134
			58.	Van Buren	148,216
			59.	Washtenaw	666,028
			60.	Wayne	9,143,262

Source: Michigan, Department of Education, unpublished records.

APPENDIX F

ENROLLMENT IN GRADES 9-12 BY INTERMEDIATE SCHOOL DISTRICT FOR 1963-64, MICHIGAN

	Intermediate District	9-12 Enrollment		Intermediate District	9-12 Enrollment
1.	Alger-Marquette	4,272	28.	Ionia	3,206
2.	Allegan	4,270	29.	Iosco	1,605
3.	Alpena-Alcona-Montmorency	2,527	30.	Isabella	2,025
4.	Barry	1,987	31.	Jackson	8,129
5.	Bay-Arenac	6,942	32.	Kalamazoo	10,654
6.	Berrien	11,087	33.	Kent	20,353
7.	Branch	1,908	34.	Lake	312
8.	Calhoun	9,124	35.	Lapeer	2,647
9.	Cass	2,163	36.	Lenawee	5,937
10.	Charlevoix-Emmet	2,353	37.	Livingston	2,755
11.	Cheboygan-Otsego-Presque Isle	2,395	38.	Macomb	26,913
			39.	Manistee	476
12.	Chippewa-Luce-Mackinac	3,476	40.	Mason	1,577
			41.	Mecosta-Osceola	2,796
13.	Clare	1,101	42.	Menominee	1,860
14.	Clinton	2,626	43.	Midland	4,176
15.	Crawford-Oscoda-Roscommon-Ogemaw	1,787	44.	Missaukee-Wexford	1,974
			45.	Monroe	6,917
16.	Delta-Schoolcraft	2,971	46.	Montcalm	3,023
17.	Dickinson-Iron	3,098	47.	Muskegon	9,053
18.	Eaton	3,114	48.	Newaygo	2,032
19.	Genesee	26,192	49.	Oakland	45,836
20.	Gladwin	811	50.	Oceana	1,144
21.	Gogebic-Ontonagon	2,468	51.	Ottawa	6,383
			52.	Saginaw	13,062
22.	Grand Traverse-Kalkaska-Antrim-Benzie-Leelanau	4,287	53.	St. Clair	6,583
			54.	St. Joseph	2,408
			55.	Sanilac	2,458
23.	Gratiot	2,976	56.	Shiawassee	4,096
24.	Hillsdale	2,450	57.	Tuscola	3,391
25.	Houghton-Baraga-Keweenaw	2,945	58.	Van Buren	3,962
			59.	Washtenaw	9,550
26.	Huron	2,776	60.	Wayne	141,652
27.	Ingham	14,401			

Source: Michigan, Department of Education, unpublished records.

APPENDIX G

LIST OF COMPLETED MICHIGAN AREA VOCATIONAL-TECHNICAL EDUCATION STUDIES

Atkinson, W. N., Plan for Area Vocational-Technical Education in Jackson County. Jackson, Michigan: Jackson Community College, 1965.

Cook, James E., et al. Patterns for Progress. Battle Creek, Michigan: Kellogg Community College, 1966.

Dannenberg, Raymond A., et al. Berrien County Vocational-Technical Education Research Study. St. Joseph, Michigan: Berrien County Intermediate School District, 1966.

Erskine, Edward J., et al. Macomb Occupational Education Survey. Warren, Michigan: Macomb Occupational Education Survey Executive Committee, 1966.

Feringa, Harold, et al. Report, Kent County Vocational-Technical Education Survey--Kent County, Michigan. Grand Rapids: Grand Rapids Junior College, 1966.

Fisher, Harold S., et al. Meeting Employment Needs. Muskegon, Michigan: Muskegon Area Intermediate School District, 1965.

Haines, Peter G., et al. Improving Vocational-Technical Education in the Top O' Michigan Area. East Lansing: Michigan State University, 1965.

Haines, Peter G., et al. Education for Economic Opportunity. East Lansing: Michigan State University, 1965.

Haines, Peter G. and Meaders, O. Donald, et al. Improving Vocational Education in Lapeer County. Lapeer, Michigan: Lapeer Intermediate School District, 1966.

Mallory, Alva, et al. A Survey of Vocational-Technical and Adult Education Needs in Monroe County. Monroe, Michigan: Monroe County Intermediate Board of Education, 1966.

Philp, W.S., et al. Occupational Training Opportunities. Port Huron, Michigan: Port Huron Area School District, 1966.

APPENDIX G - Continued

Rinehart, Richard and Samson, Dolores, et al. A Study in Futures. Escanaba, Michigan: Bay de Noc Community College, 1966.

Rothi, Eugene and Gebraad, Donald, et al. Ottawa Area Vocational-Technical Education Needs. Grand Haven, Michigan: Ottawa Area Intermediate School District, 1966.

Scarnato, Samuel A., et al. Cass County Vocational-Technical Education Study. Cassopolis, Michigan: Lewis Cass Intermediate School District, 1966.

Smith, Max S. and Dunn, Bruce, et al. Three County Area High School and Post-High School Educational Needs Study. East Lansing: Michigan State University, 1966.

Steel, David T., et al. Hillsdale County Area Vocational Study. Hillsdale, Michigan: Hillsdale County Intermediate School District, 1966.

Varda, Lawrence, et al. Dickinson Iron Area Vocational Study. Kingsford, Michigan: Breitung Township Schools, 1966.

Young, Raymond J., et al. Shiawassee-Clinton Area Vocational-Technical Education Study. Ann Arbor, University of Michigan, 1966.

APPENDIX H

(Body of cover letter sent to directors and consultants of vocational education)

Would you take five minutes to help me out? As you may know, I am engaged in a study concerning the establishment of area vocational-education programs at both the high school and community college level.

Enclosed is a short questionnaire seeking your opinions regarding several statements about the establishment of area vocational programs. Would you please take a few minutes from your busy schedule to fill this out? Your opinion is important in order to make some judgments relative to certain principles concerning the establishment of area programs.

I would greatly appreciate it if you could return the completed questionnaire before Friday, May 27. The results will be made available to you. No individual responses will be identified in the compilation.

A stamped Self-addressed envelope is enclosed for your convenience. Thank you.

A QUESTIONNAIRE CONCERNING THE ESTABLISHMENT OF AREA VOCATIONAL EDUCATION PROGRAMS

Listed below are several statements and questions related to area vocational education programs. Please read each one carefully and then check the choices as directed after each statement.

---

1. Assuming that you have limited funds available, rank the following groups of people in terms of priority for the use of funds for vocational education programs: (Place a number 1 in front of your first priority, number 2 for your second and number 3 for your third priority)

   ____High school students
   ____Full-time post-high school students
   ____Employed adults needing job upgrading or retraining

2. Assuming some type of vocational education program will be offered at the high school level, which of the following organizational patterns would you prefer for such programs: (Check one)

   ____Programs offered in individual high schools and restricted to students in those high schools.
   ____Programs offered cooperatively on an area basis by several high schools.
   ____Programs offered by community colleges for high school students.

3. Vocational education at the high school level should provide: (Check one)

   ____Only occupational exploratory experiences.
   ____Exploratory experiences and broad training for a group of closely related occupations.
   ____Training for specific occupations.
   ____Should not be provided at high school level.

4. High school vocational education programs should be planned mainly for the labor market needs of the: (Check as many as appropriate)

   ____local
   ____state
   ____nation

5. Community college vocational education programs should be planned mainly for the labor market needs of the: (Check as many as appropriate)

   ____local area
   ____state
   ____nation

6. Four-year college and university vocational education programs of less than Baccalaureate Degree level should be planned mainly for the labor market needs of the: (Check as many as appropriate)

____local area
____state
____nation

7. Which of the following institutions do you feel should have the major responsibility for providing full-time post-high school vocational education programs of less than Baccalaureate Degree level? (Check one)

____Individual high school districts.
____Area vocational schools operated cooperatively by several high school districts.
____Community colleges.
____Four-year colleges and universities.

8. Which of the following institutions do you feel should have the major responsibility for providing vocational education for employed adults who need job-upgrading or retraining? (Check one)

____Individual high school districts.
____Area vocational schools operated cooperatively by several high school districts.
____Community colleges.
____Four-year colleges and universities.

9. Some people feel that the more specialized vocational education programs, such as data processing, numerical control, etc., should be limited to only one institution or to relatively few institutions in Michigan. Do you: (Check one)

____strongly agree
____agree
____no opinion
____disagree
____strongly disagree

10. It has been stated that in the future most people will receive their specific vocational training after they leave high school. Do you: (Check one)

____strongly agree
____agree
____no opinion
____disagree
____strongly disagree

11. In community college districts, all post-high school vocational education programs should be coordinated or administered by the community college even though some programs for adults might be provided in facilities of the high school districts. Do you: (Check one)

____strongly agree
____agree
____no opinion
____disagree
____strongly disagree

12. In Michigan, most high school districts cannot individually provide adequate vocational education programs. Do you: (Check one)

____strongly agree
____agree
____no opinion
____disagree
____strongly disagree

13. Assuming that high school vocational education programs will be developed in such a way that several high school districts cooperatively operate them, which one of the following groups of people do you feel would not favor this development? (Check one)

____K-12 district administrators
____Community college district administrators
____Parents
____Students
____Taxpayers
____High school vocational education teachers
____Community college vocational education teachers
____High school boards of education
____Community college boards of trustees
____All the above would not favor

14. Assuming that high school vocational education programs will be developed in such a way that several high school districts cooperatively operate them, which one of the following groups of people do you feel would favor this development? (Check as many as appropriate)

____K-12 district administrators
____Community college district administrators
____Parents
____Students
____Taxpayers
____High school vocational education teachers
____Community college vocational education teachers
____High school boards of education
____Community college boards of trustees
____All the above would favor

15. List some of the advantages you see in the development of area vocational education programs operated cooperatively by several high school districts?

_____

_____

_____

_____

_____

16. List some of the disadvantages you see in the development of area vocational education programs operated cooperatively by several high school districts?

17. Assuming adequate finances are available, how would you describe the ideal high school vocational education program in terms of type of program offerings?

APPENDIX I

RESPONSES TO AN OPINION SURVEY OF LOCAL DIRECTORS AND CONSULTANTS OF VOCATIONAL EDUCATION

TABLE I

Assuming that you have limited funds available, rank the following groups of people in terms of priority for the use of funds for vocational education programs:

	High School Directors								
	1st		2nd*		3rd		No Answer		Total
	#	%	#	%	#	%	#	%	T
High School Students	35	72.9	8	16.7	5	10.4	0	0.0	48
Full-time Post-high School Students	11	22.9	27	56.3	6	12.5	4	8.3	48
Employed Adults Needing Job Upgrading or Retraining	2	2.1	10	20.8	32	66.7	4	8.3	48
Total	48	100.0	45	93.8	43	89.6	8	18.7	144

*One respondent selected both high school and adult as second choices.

APPENDIX I, TABLE 1--CONTINUED

	Community College Directors							Intermediate District Consultants						
	1st*		2nd		3rd		Total	1st		2nd		3rd		Total
	#	%	#	%	#	%		#	%	#	%	#	%	
High School Students	1	10	1	10	2	20	10	2	100	0	0	0	0	2
Full-time Post-high School Students	9	90	1	10	0	0	10	0	0	6	75	2	25	8
Employed Adults Needing Job Upgrading or Retraining	1	10	7	70	2	20	10	0	0	2	25	6	75	8
Total	11	110	9	90	10	100	30	8	100	8	100	8	100	24

*One respondent selected both high school and post-high school as first choices.

APPENDIX I--CONTINUED

TABLE 7

Assuming some type of vocational education program will be offered at the high school level, which of the following organizational patterns would you prefer for such programs?

	High School Directors		Community College Directors		Intermediate District Consultants		Total	
	#	%	#	%	#	%	#	%
Programs offered in individual high schools and restricted to students in those high schools	11	22.9	2	20	1	12.5	14	21.2
Programs offered cooperatively on an area basis by several high schools	37	77.1	5	50	7	87.5	49	74.2
Programs offered by community colleges for high school students	2	4.1	3	30	0	0.0	5	7.6
Total	50*	104.2	10	100	8	100.0		

*Two respondents checked both individual schools and area basis.

APPENDIX I--CONTINUED

TABLE 3

Vocational education at the high school level should provide:

	High School Directors		Community College Directors		Intermediate District Consultants		Total	
	#*	%	#	%	#	%	#	%
Only occupational exploratory experiences	0	0.0	0	0	0	0	0	0.0
Exploratory experiences and broad training	39	81.3	7	70	4	50	50	75.8
Training for specific occupations	13	27.1	2	20	4	50	19	28.8
Should not be provided at high school level	0	0.0	1	10	0	0	1	1.5
Total	52	108.3	10	100	8	100		

*Four respondents checked both Exploratory and Broad Training and Training for Specific Occupations.

TABLE 4

High school vocational education programs should be planned mainly for the labor market needs of the:

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Local	43	89.6	7	70	8	100	58	87.9
State	41	85.4	9	90	8	100	58	87.9
Nation	39	60.4	8	80	55	62.5	42	63.7

APPENDIX I--CONTINUED

TABLE 5

Community college vocational education programs should be planned mainly for the labor market needs of:

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Local	[illegible]	87.5	9	90	7	87.5	58	87.9
State	[illegible]	87.5	10	100	8	100	60	90.9
Nation	[illegible]	62.5	[illegible]	[illegible]	6	75	[illegible]	[illegible]

TABLE 6

Four-year college and university vocational education programs of less than Baccalaureate Degree level should be planned mainly for the labor market needs of the:

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Local	[illegible]	66.7	7	70	5	62.5	44	66.7
State	42	89.6	9	90	6	75	58	87.9
Nation	42	87.5	9	90	7	87.5	56	84.8

APPENDIX I--CONTINUED

TABLE 7

Which of the following institutions do you feel should have the major responsibility for providing full-time post-high school vocational education programs of less than Baccalaureate Degree level?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
High School	3	6.3	0	0	0	0	3	4.5
Area Schools	16	33.3	0	0	3	37.5	19	28.8
Comm. Colleges	30	62.5	10	100	5	62.5	45	68.2
4-Yr. Colleges	0	0	0	0	0	0	0	0
Total	49	102.1	10	100	8	100		

*One respondent checked both High School and Area Schools.

TABLE 8

Which of the following institutions do you feel should have the major responsibility for providing vocational education for employed adults who need job-upgrading or retraining?

	High School Directors		Community Coll. Directors		Inter Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
High School	5	16.4	0	0	0	0	4	6.1
Area Schools	24	50	0	0	5	62.5	29	43.3
Comm. Colleges	27	56.3	10	100	3	37.5	40	60.7
4-Yrs. Colleges	0	0	0	0	0	0	0	0
Total	56	116.6	10	100	8	100		

Three respondents checked Area Schools and Community Colleges. Two respondents checked High School, Area Schools, and Community Colleges. One respondent checked High School and Area Schools.

APPENDIX I--CONTINUED

TABLE 9

Some people feel that the more specialized vocational education programs, such as data processing, numerical control, etc., should be limited to only one institution or to relatively few institutions in Michigan. Do you?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Strongly Agree	5	10.4	2	20	0	0	7	10.6
Agree	9	18.8	1	10	0	0	10	15.2
No Opinion	3	6.3	1	10	0	0	4	6.1
Disagree	24	50.0	3	30	4	50	31	47.0
Strongly Disagree	7	14.6	3	30	4	50	14	21.2
Total	48	100.0	10	100	8	100		

TABLE 10

It has been stated that in the future most people will receive their specific vocational training after they leave high school. Do you?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Strongly Agree	2	4.1	5	50	0	0.0	7	10.6
Agree	27	56.3	33	30	0	0.0	30	45.5
No Opinion	0	0.0	1	10	1	12.5	2	3.0
Disagree	15	31.3	1	10	2	25.0	18	27.3
Strongly Disagree	4	8.3	0	0	5	62.5	9	13.6
Total	48	100.0	10	100	8	100.0		

APPENDIX I--CONTINUED

TABLE 11

In community college districts, all post-high school vocational education programs should be coordinated or administered by the community college even though some programs for adults might be provided in facilities of the high school districts. Do you?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
Strongly Agree	6	12.5	8	80	1	12.5	15	22.7
Agree	19	39.6	2	20	2	25.0	23	34.8
No Opinion	1	2.1	0	0	0	0.0	1	1.5
Disagree	11	22.9	0	0	2	25.0	13	19.7
Strongly Disagree	11	22.9	0	0	3	37.5	14	21.2
Total	48	100.0	10	100	8	100.0		

TABLE 12

In Michigan, most high school districts cannot individually provide adequate vocational education programs. Do you?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#*	%	#	%	#	%
Strongly Agree	21	43.8	5	50	5	62.5	31	47.0
Agree	23	47.9	3	30	3	37.5	29	43.9
No Opinion	1	2.1	0	0	0	0.0	1	1.5
Disagree	2	4.1	2	20	0	0.0	4	6.1
Strongly Disagree	1	2.1	1	10	0	0.0	2	3.0
Total	48	100.0	11	110	8	100.0		

*One respondent both agreed and disagreed.

APPENDIX I--CONTINUED

TABLE 13

Assuming that high school vocational education programs will be developed in such a way that several high school districts cooperatively operate them, which one of the following groups of people do you feel would not favor this development?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
K-12	12	25.0	7	70	1	12.5	20	31.8
Comm. Coll. Administrators	26	54.2	2	20	6	75.0	34	51.5
Parents	4	8.3	1	10	0	0.0	5	7.6
Students	6	12.5	0	0	0	0.0	6	9.1
Taxpayers	8	16.7	1	10	0	0.0	9	13.6
High School Voc. Ed. Teachers	7	14.6	3	30	0	0.0	10	15.2
Comm. Coll. Voc. Ed. Teachers	14	29.2	1	10	2	25.0	17	25.8
High School Board of Ed.	10	20.8	6	60	0	0.0	16	24.2
Comm. Coll. Board of Trustees	18	37.5	0	0	4	50.0	22	33.3
All	0	0.0	1	10	0	0.0	1	1.5

APPENDIX I--CONTINUED

TABLE 14

Assuming that high school vocational education programs will be developed in such a way that several high school districts cooperatively operate them, which one of the following groups of people do you feel would favor this development?

	High School Directors		Community Coll. Directors		Inter. Dist. Consultants		Total	
	#	%	#	%	#	%	#	%
K-12	27	56.3	2	20	7	87.5	36	54.5
Comm. Coll. Administrators	9	18.8	3	30	1	12.5	13	19.7
Parents	33	68.8	5	50	8	100.0	46	69.7
Students	29	60.4	66	60	8	100.0	43	65.2
Taxpayers	22	45.8	4	40	8	100.0	34	51.5
High School Voc Ed. Teachers	29	60.4	1	10	7	87.5	37	56.1
Comm. Coll. Voc Ed. Teachers	7	14.6	4	40	3	37.5	14	21.2
High School Board of Ed.	25	52.1	2	20	7	87.5	34	51.5
Comm. Coll. Board of Trustees	8	16.7	2	20	2	25.0	12	18.2
All	6	12.5	0	0	0	0.0	6	9.1

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Alberty, Harold. Reorganizing the High-School Curriculum. New York: MacMillan Co., 1953.

Anderson, Lewis F. History of Manual and Industrial School Education. New York: D. Appleton, 1926.

Baer, Max and Roeber, Edward C. Occupational Information. Chicago: Science Research Associates, 1964.

Bennett, Charles Alpheus. History of Manual and Industrial Education up to 1870. Peoria, Illinois: Chas. A. Bennett Co., 1926.

Bode, Boyd H. Democracy as a Way of Life. New York: MacMillan Co., 1943.

Curti, Merle. The Social Ideas of American Educators. New York: Charles Scribner's Sons, 1935.

Dalton, Frank W. The Development of Industrial Education in Education. Ann Arbor, Michigan: Industrial Education Society, 1940.

Dewey, John. Democracy and Education. New York: MacMillan Co., 1916.

Hawkins, Layton S., Presser, Charles H., and Wright, John C. Development of Vocational Education. Chicago: American Technical Society, 1951.

Henderson, Stella Van Petten. Introduction to Philosophy of Education. Chicago: University of Chicago Press, 1947.

Monroe, Paul. Founding of the American Public School System. New York: MacMillan Co., 1940.

National Education Association, Educational Policies Commission. Education for All American Youth: A Further Look. Washington: National Education Association of the United States, 1952.

BIBLIOGRAPHY - Continued

National Education Association, Education Policies Commission. The Purposes of Education in American Democracy. Washington: National Education Association of the United States, 1938.

Padover, Saul K. A Jefferson Profile. New York: The John Day Co., 1956.

Washington, Booker T. Up From Slavery. Garden City, N.Y.: Doubleday & Co., 1900.

Whitehead, A.N. The Aims of Education and Other Essays. London: Williams and Norgate Ltd., 1932.

Woodward, C.M. The Manual Training School. Boston: D.C. Heath and Co., 1887.

Woody, Thomas. Education Views of Benjamin Franklin. New York: McGraw-Hill Book Co., 1931.

Bulletins and Reports

American Institutes of Research. Project ABLE: Development and Evaluation of an Experimental Curriculum for the New Quincy (Mass.) Vocational-Technical School, Third Quarterly Technical Report. Pittsburgh: American Institutes for Research, 1965.

American Vocational Association, Committee on Research and Publications. An Enlarged Program of Vocational Education with Special Reference to Larger Administrative Units. Washington: American Vocational Association, 1943.

American Vocational Association, Committee on Research and Publications. Area Vocational Education Programs. Washington: American Vocational Association, 1959.

American Vocational Association, Committee on Research and Publications. Service Areas for Vocational Schools. Washington: American Vocational Association, 1949.

BIBLIOGRAPHY - Continued

Battelle Memorial Institute. The Michigan Manpower Study--Phase I, An Analysis of the Characteristics of Michigan's Labor Force in the Next 15 Years. Columbus, Ohio: Battelle Memorial Institute, 1966.

Borosage, Lawrence, et al. Vocational Education in Michigan. Final Report of the Michigan Vocational Education Evaluation Project. East Lansing, Michigan: Michigan State University, College of Education, 1963.

Detroit Board of Education. Preparing Pupils for the World of Work. Report of the Special Staff Committee Appointed by the Superintendent of Schools. Detroit: Board of Education of the City of Detroit, 1962.

Educational Research Council of Greater Cleveland. Sequential Programs in Occupational Education for a Restructured Curriculum. Cleveland: Educational Research Council of Greater Cleveland, 1966.

Frank, N.H. Summary Report of the Summer Study on Occupational, Vocational and Technical Education. Cambridge: Massachusetts Institute of Technology, 1965.

Harris, Norman C., and Yencso, William R. Technical Education in Michigan Community Colleges. Ann Arbor, Michigan: University of Michigan, 1965.

Michigan Council for Vocational Education Administration. Area Vocational-Technical Schools in Michigan. Second Report of the Council. Lansing: the Council, 1944.

Michigan Council of Community College Administrators. A Concept of Area Skill Centers for the State of Michigan--the Michigan Community Colleges as Administrative Units. A report of the Sub-Committee on Vocational-Technical Education, December, 1963.

Michigan Council of Community College Administrators. A Policy Statement. Lansing: Michigan Council of Community College Administrators, 1963.

BIBLIOGRAPHY- Continued

Moyer, J.H. "Circuit and Part-Time Teachers," Economical Enrichment of the Small Secondary-School Curriculum. Washington: National Education Association, Department of Rural Education, 1934.

Rockefeller Brothers Fund. The Pursuit of Excellence: Education and the Future of America. Panel Report of the Special Studies Project of the Rockefeller Brothers Fund, Inc. New York: Doubleday & Co., 1958.

Smith, Harold T. Education and Training for the World of Work--A Vocational Education Program for the State of Michigan. Kalamazoo, Michigan: The W.E. Upjohn Institute for Employment Research, 1963.

Smith, Max S., et al. Final Report: Three County Area High School and Post-High School Educational Needs Study Committee of Huron-Sanilac-Tuscola Counties. East Lansing: Michigan State University, Office of Community College Cooperation, 1966.

Ten Brink, James. Meeting Employment Needs. Muskegon, Michigan: Muskegon Area Intermediate School District, 1965.

Ten Brink James, and Fisher, Harold S. Proposed Muskegon Area Vocational Center. Muskegon, Michigan: Muskegon Area Intermediate School District, 1966.

Wenrich, Ralph C. The Need for Area Vocational Schools in Michigan. Ann Arbor, Michigan: The University of Michigan, School of Education, 1963.

Articles and Periodicals

Arnold, Walter M. "Area Vocational Education Programs," School Life, Vol. 42, No. 5, (January, 1960), 11.

Arnstein, George E. "The Technological Context of Vocational Education," Vocational Education, Sixty-fourth Yearbook of the National Society for the Study of Education, Part I. Chicago: University of Chicago Press, 1965, 39-63.

BIBLIOGRAPHY - Continued

Elliott, Eugene B. "Disadvantages of Area Vocational Schools," The Nation's Schools. Vol. 35, No. 4, (April, 1945), 23-24.

Fern, George H. "Area Vocational Schools", Michigan Vocational Outlook. Vol. 5, No. 1, (September, 1942), 5-8.

Hamlin, H.M. "New Designs in Vocational and Practical Arts Education", American Vocational Journal, Vol. 39, No. 9, (December, 1964), 12-15.

Mobley, Mayor D., and Barlow, Melvin L. "Impact of Federal Legislation and Policies upon Vocational Education", Vocational Education, Sixty-fourth Yearbook of the National Society for the Study of Education, Part I. Chicago: University of Chicago Press, 1965, 186-202.

Morse, Nancy C. and Weiss, R.S. "The Function and Meaning of Work and the Job", Man, Work, and Society, ed. Sigmund Nosow and William H. Form. New York: Basic Books, Inc., 1962, 29-35.

Turnquist, Carl H. "Galaxy Approach to Education for the World of Work", School Shop, XXV, No. 3 (November, 1965), 25-27.

Public Documents

Bartlett, Lynn M. Number and Percent of Michigan High School Graduates Who Enrolled in College for the Years 1950, 1955, 1960. Lansing: Michigan Department of Public Instruction, 1963.

Bartlett, Lynn M. Public High School Dropouts in Michigan, 1962-63. Lansing: Michigan Department of Public Instruction, 1964.

Bartlett, Lynn M. "Statement of Dr. Lynn M. Bartlett, State Superintendent of Public Instruction, State of Michigan", Hearings Before the General Subcommittee on Education of the Committee on Education and Labor. House of Representatives, 88th Congress, First Session, on Title V-A of the H.R. 3000, and H.R. 4955. Washington: U.S. Government Printing Office, 1963.

BIBLIOGRAPHY - Continued

Brookover, Wilbur B., and Nosow, Sigmund. "A Sociological Analysis of Vocational Education in the United States", Education for a Changing World of Work: Appendix III. U.S. Department of Health, Education, and Welfare. Washington: U.S. Government Printing Office, 1963.

Fitzwater, C.O. School District Reorganization Policies and Procedures. U.S. Department of Health, Education, and Welfare. Office of Education. Washington: U.S. Government Printing Office, 1957.

Michigan Council on Secondary Education. A Policy Statement Concerning Employment-Bound Youth. Lansing: Michigan Department of Public Instruction, 1963.

Michigan, Department of Education, Division of Vocational Education. Area Vocational-Technical Education Studies. Lansing: Michigan Department of Education, 1965. (Mimeographed.)

Michigan, Department of Education, Division of Vocational Education. Establishing and Operating Area Vocational-Technical Education Programs in Michigan. Lansing: State Board of Education, 1966.

Michigan, Department of Public Instruction. A Statement of Basic Philosophy Regarding Public Education in Michigan. Lansing: the Department, 1960.

Michigan, Department of Public Instruction. A Survey of Selected Area Vocational Education Programs in the United States. Lansing: Michigan Department of Public Instruction, 1963, (Mimeographed.)

Michigan, Department of Public Instruction. Background Information Concerning Area Vocational Education Programs. Lansing: Michigan Department of Public Instruction, 1963.

Michigan, Legislature. Act No. 35 of the Public Acts of 1907. Regular Session of the 1907 Legislature.

Michigan, Legislature. Act No. 237 of the Public Acts of 1964. Regular Session of the 1964 Legislature.

BIBLIOGRAPHY - Continued

Michigan, Legislature. Act No. 246 of the Public Acts of 1964. Regular Session of the 1964 Legislature.

Michigan, State Board of Education. Annual Descriptive Report for Division of Vocational Education, Department of Education for Fiscal Year 1965. Lansing: State Board of Education, 1965.

Michigan, State Board of Education. Minutes of the State Board of Education: February 10, 1965. Lansing: State Board of Education, 1965.

Michigan, State Coordinating Committee for Michigan's Manpower Development and Training Plan. The Michigan Manpower Development Plan for Fiscal Year 1967. Lansing: Michigan Department of Labor, 1966.

Michigan, State Board of Control for Vocational Education. Annual Descriptive Reports for 1946, 1950, 1951, 1952, 1955, 1961, 1963, and 1964. Lansing: Michigan Department of Public Instruction.

President's Committee on Youth Employment. The Challenge of Jobless Youth. Washington: U.S. Government Printing Office, 1963.

U.S. Congress. Area Redevelopment Act. Public Law 87-27. 88th Congress, 1961.

U.S. Congress. George-Barden Act. Public Law 586, 79th Congress, 1946.

U.S. Congress. George-Dean Act. Public Law 673, 74th Congress, 1936.

U.S. Congress. George-Ellzey Act. Public Law 245, 73rd Congress, 1934.

U.S. Congress. George-Reed Act. Public Law 702, 70th Congress, 1929.

U.S. Congress. Manpower Development and Training Act. Public Law 87-415, 87th Congress, 1962.

BIBLIOGRAPHY - Continued

U.S. Congress. National Defense Education Act. Public Law 85-864, 85th Congress, 1958.

U.S. Congress. Public Law 1027. 84th Congress, 1956.

U.S. Congress. The Health Amendments Act. Public Law 911, 84th Congress, 1956.

U.S. Congress. Vocational Education Act of 1917. Public Law 347, 64th Congress, 1917.

U.S. Congress. Vocational Education Act of 1963. Public Law 88-210, 88th Congress, 1963.

U.S. Department of Health, Education and Welfare. Education and Training: Key to Development of Human Resources. Washington: U.S. Government Printing Office, 1964.

U.S. Department of Health, Education, and Welfare. Education for a Changing World of Work, Report of the Panel of Consultants on Vocational Education. Washington: U.S. Government Printing Office, 1963. (Mimeographed.)

U.S. Department of Health, Education, and Welfare, Office of Education. Summary Report of Vocational-Technical Program Development by States. Washington: U.S. Government Printing Office, 1966.

U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education in the Next Decade: Proposals for Discussion. Washington: U.S. Government Printing Office, 1961.

U.S. Department of Interior, Bureau of Education, Cardinal Principles of Secondary Education. Bulletin 1918, No. 35. Washington: U.S. Government Printing Office, 1928.

U.S. Department of Labor. Dictionary of Occupational Titles. Vol. 1, 3rd Edition. Washington: U.S. Government Printing Office, 1965.

BIBLIOGRAPHY - Continued

U.S. Department of Labor. Manpower Report of the President and a Report on Manpower Requirements, Resources, Utilization, and Training. Washington: U.S. Government Printing Office, 1965.

Unpublished Materials

Adler, Gerald. Survey of Over 100 Area Vocational-Technical Centers Operating to Serve High School Students. Grand Rapids, Michigan: Kent County Intermediate School District, 1966. (Mimeographed.)

Altman, James W. Toward a Concept of Integrated Vocational Education. Pittsburgh: American Institute for Research, 1965, (Mimeographed.)

Bartlett, Lynn M. Michigan Superintendent of Public Instruction. Letter to selected members of the Michigan Legislature, October 7, 1964.

Burns, Richard Lyons. "Factors Governing the Establishment and Operation of Area Vocational-Technical Schools and Programs in the United States with Application to Missouri." Unpublished Doctoral Dissertation, University of Missouri, Columbia, 1964.

Detroit Public Schools. "The Detroit or Galaxy Plan for Career Preparation." Division for Improvement of Instruction, 1966, (Mimeographed.)

Maley, Donald and Frantz, Nevin R. An Investigation and Development of the "Cluster Concept" as a Program in Vocational Education at the Secondary Level. College Park, Maryland: University of Maryland, 1965, (Mimeographed.)

Martin, William E. Southeastern Indiana Area Vocational School. (Mimeographed.)

McElroy, Louis A. Planning for Vocational-Technical Education Around a Ten Cluster System. Gary, Indiana: Gary Public Schools, 1966, (Mimeographed.)

BIBLIOGRAPHY - Continued

Michigan, Department of Education, Division of Vocational Education. Grants for Area Vocational-Technical Education Construction Projects, 1964-65 and Tentative Grants for Area Vocational-Technical Education Construction Projects, 1965-66. Lansing, 1966, (Mimeographed.)

Michigan, Department of Education, Division of Vocational Education. Locations of Joint Vocational Education Programs in Operation in Michigan. Lansing: Department of Education, 1966, (Mimeographed.)

Roney, M.W. Material presented at the Third Summer Institute for Administrators and Supervisors of Technical Education held at Stillwater, Oklahoma, June 7-18, 1965.

_____. St. Clair River Area Program of Coordinated Educational Programs. (Mimeographed.)

Warren, Richard B. Developing a Program of Occupational Education for all Students. Niles, Michigan: Niles Public Schools, 1966, (Mimeographed.)