A Decision-Making Model for Adding, Revising, and Terminating Vocational/Occupational Programs at the Van Buren Vocational-Technical Center

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A DECISION-MAKING MODEL FOR ADDING, REVISING, AND TERMINATING VOCATIONAL/OCCUPATIONAL PROGRAMS AT THE VAN BUREN VOCATIONAL-TECHNICAL CENTER

by

James R. Allen

A Project Report
Submitted to the
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in partial fulfillment of the
requirements for the
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A decision-making model for adding, revising, and terminating vocational/occupational programs at the Van Buren Vocational-Technical Center

James R. Allen, Ed.S.
Western Michigan University, 1990

This project for the Van Buren Vocational-Technical Center, Lawrence, Michigan, was designed to provide management with an instrument to assist them in their annual vocational program planning activities. The result was the development of a decision-making model that applies objective evaluative methods for determining occupational program additions, revisions, and terminations.

The model employs separate matrix worksheets for adding, revising, and terminating job training programs. Each classification utilizes five components for completing the worksheet: (1) selection of ten evaluation criteria, (2) criteria weights, (3) criteria definitions, (4) criteria data source information, and (5) criteria cell scores for applying data source values as a standard for evaluating each program. The cell scores for each program evaluated on a worksheet are totaled. The total scores from all programs appraised are ranked in order to determine occupational programming priority.

The use of this type of decision-making model for vocational education programming furnishes administrators at the local level with a more rational, methodical, and justifiable means for making choices among occupational program offerings, improvements, and changes.
ACKNOWLEDGEMENTS

I would like to take this opportunity to express my thanks and sincere appreciation to the following people for their contributions and support in making this project become a reality:

Dr. David Cowden, as my academic advisor, for providing helpful suggestions and invaluable insight into the many processes for completing this project; for his continual guidance and encouragement; for challenges issued in the classroom for improving my professional and personal growth; and,

Harry Miller and Dr. Diane Hodges, as administrators at the Van Buren Vocational-Technical Center, who provided direction and counsel in planning and developing this project; for sharing their time and expertise in the field of vocational education; for their exemplary leadership and management skills.

James R. Allen
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Allen, James R., Ed.S.
Western Michigan University, 1990
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CHAPTER I

INTRODUCTION

Determining vocational education programming needs which are most meaningful and relevant for the Van Buren Intermediate School District (Lawrence, Michigan) and its Vocational-Technical Center to operate is a prime decision-making challenge faced by the Director of Career Vocational-Technical Education Services, administrative support staff, and the Regional #34 Vocational Education Planning Committee. It is a continuous problem-solving process oriented toward the need to select, update, and improve occupational program offerings in order to meet the needs of students, business, industry, and labor in Van Buren County and surrounding counties.

Vocational education program planning and development is a local educational-political decision based in part on the inputs, influences, and guidelines from state and national agencies. Essentially, it is a policy-making and goal-setting process that determines which occupational programs should be added, revised, or terminated based upon criteria attuned to the Van Buren Intermediate School District's educational and job training philosophies, goals, and objectives (see Appendix A). These criteria are numerous, can be both objective and subjective, and can imply the use of value judgments relative to their selection and usage. The data base used in choosing these criteria for program planning and evaluation is derived from local,
state, or national sources and can vary in terms of quantity and
guality.

Given the complexity of the District's need to make annual and
long-range planning considerations for occupational programming
changes and improvements, it, therefore, becomes imperative that
criteria and data sources be carefully selected and measurement tech­
niques be applied within a system's framework. The identification,
application, and utilization of that set of criteria, data sources,
and measurement techniques are the goals of this project.
CHAPTER II

STATEMENT OF THE PROBLEM

Overview

It is a Van Buren Intermediate School District and Vocational-Technical Center need, as well as a Michigan State Department of Education requirement, that a Vocational-Technical Education Annual Plan be prepared and filed with the State detailing secondary vocational programs for Van Buren County. The submission of the Annual Plan is required for participating in vocational added cost funding. Only those programs listed on the planning form are eligible. Contents of the application include: (a) new program additions, (b) ongoing programs, (c) programs dropped, and (4) program improvement/equipment.

The primary person responsible for coordinating the overall annual planning process and preparing the written plan is the Director of Career Vocational-Technical Education Services/Regional Planning Director. This person is charged with the duty of formulating programming proposals and presenting them to the Regional #34 Vocational Education Planning Committee for review, evaluation, and approval. This committee is comprised of local district superintendents and secondary principals, employees of human service agencies, and intermediate district vocational education service administrators. Recommendations outlining occupational program offerings for the
Annual Plan are submitted to the Board of Education and the Michigan State Department of Education, Vocational-Technical Education Service (VTES) for approval.

Prior to completing and filing the Annual Plan, very crucial decisions are made by these vocational education planners in their determination of occupational program offerings for the District. The processes and procedures currently used in assessing which job training programs should be initiated, revised, or terminated raises critical questions as to how rational, reliable, and valid the evaluation process is relative to criterion selection, data sources, and standards of measurement employed.

The Problem

The Van Buren Vocational-Technical Center administration and the Regional #34 Vocational Education Planning Committee members require information to help guide them in making wise and sensible decisions in planning and evaluating occupational programs. Reliable occupational information is needed to ensure that job training program offerings each year meet student and labor market demands and that training is aimed at occupations with good employment prospects and away from occupations which are not in demand or oversupplied.

There is a need and a desire by the Director of Vocational-Technical Education Services and the Regional #34 Vocational Education Planning Committee that a more formalized objective process or tool be developed to assist them in deciding possible programming courses of action when faced with critical evaluation questions as to:
1. How are current occupational training programs performing in meeting the goals and objectives of the District?

2. What new occupational training programs should be added and why?

3. What data supports the need to revise or improve a program's curriculum?

4. What information supports the need to modify, continue, or terminate a program?

How Can the Problem Be Resolved?

The format for meeting this need is the design, development, and implementation of a decision-making model to be used on an annual basis for determining which occupational training programs at the Van Buren Vocational-Technical Center should be added, revised, or terminated. The use of such a model will provide vocational education management and the Regional #34 Vocational Education Planning Committee with a more adequate tool that will help improve occupational program planning decisions at the local intermediate school district level. The application of the model will supplement both program review and annual program planning activities. The principal components of the model will utilize the selection of concrete and relevant criteria, selection and collection of accurate and reliable data sources, and the use of weighted measurements for scoring.
CHAPTER III

BACKGROUND

The essence for effecting quality vocational-technical education for an area career center is based on an integrated and continuous process of planning, developing, implementing, evaluating, and modifying its occupational programs and services for the intended purposes of improving performance and delivery. Since 1976, when the Van Buren Vocational-Technical Center became operational, management's initiatives have been committed to this programmatic effort.

One of the means for accomplishing this task has been management's use of interactive planning and evaluation committees which have provided input into the decision-making processes with respect to selecting, revising, and terminating occupational training programs for the Van Buren Intermediate School District. These committees have included: the Regional #34 Vocational Education Planning Committee, program review task force committees, individual occupational program advisory committees, and special ad hoc advisory groups.

Over the past 14 years, vocational-technical education training programs at the Center have been primarily selected and implemented on the basis of: (a) serving the needs and interests of youth and adults in Van Buren County; (b) actual or anticipated employment opportunities (labor demand) of business and industry locally, surrounding counties, and statewide; and (c) budgetary constraints and limited financial resources (local, state, federal) in which the
District and Center must operate.

Efforts toward planning and developing annual and long-range programming strategies around these three criteria have often times been difficult to resolve. Various extenuating circumstances and factors within the district and Michigan have contributed to management's need for constant consideration of occupational program additions, revisions, and terminations at the Center. The criteria which have impacted management's programming decisions are of three categorical types, which are listed in Table 1.

During the years that the Van Buren Vocational-Technical Center has been in existence, the following resources have been used as supporting evidence for recommending occupational program additions, revisions, and terminations: (a) individual instructional program or cluster program review; (b) individual program or cluster advisory committee recommendations; (c) Vocational-Technical Center student enrollment history by individual program or cluster (see Appendix B); (d) annual Follow-up Survey of Students Placement Summary of Completers by Program and Continuing Education Job Satisfaction, and Hourly Rate Summary (see Appendix C); (e) Michigan Department of Education Planning and Decision-Making Package (see Appendix D); (f) Michigan Department of Education Vocational Education annual Funding Policy State Rank List (see Appendix E); (g) student EDP's (Employability Development Plan) from each of the school districts in Van Buren County (see Appendix F); (h) local economic development studies and surveys; and (i) Michigan Employment Security Commission (MESC) Occupational Supply/Demand Projections.
Table 1
Circumstances and Factors Leading to Programming Decisions

<table>
<thead>
<tr>
<th>Program Additions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. An increase in the labor market demand locally and statewide due to an undersupply of workers.</td>
</tr>
<tr>
<td>2. New and emerging occupations caused by changing technology.</td>
</tr>
<tr>
<td>3. Student interest surveys indicate a need and desire to offer a particular occupational training program.</td>
</tr>
<tr>
<td>4. Sufficient funding available which makes offering a particular program cost-effective to start-up and operate.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Revisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The need to update a program's curriculum to incorporate new technology (tasks, skills, and equipment) related to changing job requirements.</td>
</tr>
<tr>
<td>2. The addition of new occupational job titles for new careers to attract more students.</td>
</tr>
<tr>
<td>3. Incorporating an occupational program into another program (i.e., Desktop Publishing from Graphic Arts into the Business Office program).</td>
</tr>
<tr>
<td>4. Reorganizing or clustering programs in order to provide students more mobility within different occupations and provide services at the same or reduced cost.</td>
</tr>
<tr>
<td>5. Contracting less-than-class-size programs out to business and industry sites for conducting classroom and on-the-job training.</td>
</tr>
</tbody>
</table>
Table 1—Continued

<table>
<thead>
<tr>
<th>Program Terminations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A decline in student enrollments in constituent districts.</td>
</tr>
<tr>
<td>2. Student to instructor ratio in an occupational program is too low.</td>
</tr>
<tr>
<td>3. Insufficient enrollments in an occupational program due to student lack of interest or the career field itself not being attractive to prospective students.</td>
</tr>
<tr>
<td>4. Insufficient funding due to statewide reimbursement funding reductions.</td>
</tr>
<tr>
<td>5. Increase in an occupational program's costs relative to low enrollments.</td>
</tr>
<tr>
<td>6. Students not being able to access vocational-technical programs because of increased graduation requirements.</td>
</tr>
<tr>
<td>7. Unsatisfactory job placement due to an oversupply of workers in the career field or no employment growth projected in the future.</td>
</tr>
</tbody>
</table>

During the 1985-86 school year, at one of the Regional #34 Vocational Education Planning Committee meetings, the issue of determining occupational program additions, revisions, and terminations was discussed by the membership. The focal point of the discussion, initiated by the Director of Vocational-Technical Education Services, was the need for the group to develop a list of decision-making criteria for use in judging programming alternatives. The importance of identifying and selecting specific criteria was to help serve as a more rational and objective means for justifying future programming
decisions for the Center and the district. As a result of this meeting, the Regional #34 Vocational Education Planning Committee adopted and approved eight decision-making criteria to be applied by the Center's Administrative Program Development Team and the Committee as a standard for scrutinizing occupational training program additions, revisions, and terminations. These eight criteria were: (1) demand/supply ratio, (2) employment demand, (3) student enrollment, (4) employment growth prospects, (5) location of jobs, (6) related placement, (7) on-going costs per student hour, and (8) start-up costs.

From 1985-86 until the present time, these eight decision-making criteria have remained in place and have been used by the Center's Administrative Program Development Team in recommending annual programming changes to the Regional #34 Vocational Education Planning Committee. However, in the four years since the criteria have been in effect, a system or instrument for applying these criteria has never been developed by the Vocational-Technical Center's administration or proposed by the Regional #34 Committee.

At a March, 1989, Regional #34 Committee meeting, the Center's Director again addressed the issue of the eight decision-making criteria. The Director of Vocational-Technical Education Services reiterated management's desire and the Committee's need for the development and implementation of a decision-making model for all occupational training programs that are to be annually reviewed.
CHAPTER IV

REVIEW OF THE LITERATURE

The purpose of this project was to develop a decision-making model for adding, revising, and terminating vocational/occupational training programs at the Van Buren Vocational-Technical Center. The review of the literature was focused primarily on the examination of materials that would be of assistance and provide input into effecting such a model for development and implementation. The review of the related literature for the present project is organized in five sections: (1) vocational education; (2) Michigan Plan for Vocational Education; (3) local program planning and evaluation; (4) program planning and evaluation criteria; and (5) identification, collection, analysis and limitations of data for decision facilitation.

Vocational Education

The terms vocational education, technical education, and occupational education are quite often used interchangeably throughout the literature. These terms may have different meanings for some readers; however, all three terms refer to the education of youth and adults for the world of work.

Vocational education is defined as specialized preparation for entry into employment, advancement, or continuation in an occupation (Atteberry, 1977). It is specialized because courses or programs are elected only by those individuals who have a special interest in
preparing for and/or progressing in a particular occupation or family of occupations (Wenrich, Wenrich, & Galloway, 1988).

Vocational education training programs at the secondary level are designed to meet the differing vocational needs of:

1. Persons who are preparing to enter the labor market.
2. Persons who have left or completed high school and are available for preparation to enter the labor market.
3. Persons who have entered the labor market, and who need training to achieve employment stability, or retraining to advance in the labor market.
4. Persons who are disadvantaged and for whom regular vocational education programs require modifications. (Risher, 1976, p. 9)

Federal legislation specifically describes the legal parameters and mandates under which vocational education functions in the United States. From the Smith-Hughes Act of 1917 to the present time, legislative enactments have made it quite clear to the states that vocational education can be provided in any occupation on the condition that there are employment opportunities in the occupation and provided further that it meets the needs and interests of the learner (Wenrich et al., 1988).

Michigan Plan for Vocational Education

The federal vocational education acts require that any state desiring to participate in federal funding support of vocational education programs must submit a state plan to the Secretary of Education for approval. The state plan must set forth in detail the policies and procedures to be followed by the state in the distribution of
funds to local educational agencies and how those funds will be used.

**Michigan State Plan for 1988-1990**

The Michigan State Plan for Vocational Education is prepared every two years. The most recent plan was developed for the school years 1988-89/1989-90 (Michigan State Board of Education, 1988).

Michigan's philosophy for vocational education, as outlined in the current *Michigan State Plan for Vocational Education* publication states:

> Persons of all ages in all Michigan communities will have access to quality vocational-technical education including skill training/retraining and life management skills, which is consistent with their abilities, realistic in relation to actual or anticipated opportunities for paid or unpaid employment and which, to the extent possible, is consistent with the State's economic development strategies. (p. A-1)

The State Plan also lists seven goal statements for achieving the plan. Two of the goals which seem appropriate for this project relative to local program planning are:

**Goal #5:** Educational agencies providing vocational-technical education will be responsible for economic development needs of business, industry, and labor in their communities. (p. A-2)

**Goal #7:** Those educational agencies which provide vocational-technical education programs will develop and implement annual and long-range regional (CEPD) plans for the operation and improvement of their delivery system. (p. A-2)

Among the many activity statements developed and cited in the State Plan for 1988-89/1989-90, two are considered as key elements that have an effect on local school districts. They are:

**Activity:** Develop and implement an evaluation model which includes an analysis of supply and demand to enable the identification of new programs and deletion of outdated or duplicate programs. (p. A-9)

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Activity: Identify and implement program design/standards, systems delivery options, strategies/policies and implementation procedures for occupational programs needing modifications. (p. A-9)

Added Cost Funding

Added cost funding has a direct bearing on local program planning decisions. These funds are appropriated each school year by the Michigan legislature as categorical state aid in support of secondary vocational education programs. Added cost funds are allocated to local educational agencies for the purpose of reimbursing the extra cost incurred above the cost of non-vocational (general education) programs (Odbert, 1978, p. 2).

Added cost program funding priority in Michigan is based on statewide high employment demand, student placement, demand/supply relationships, projected growth prospects, and CEPD (Career Education Planning District) options (Michigan State Board of Education, 1989). Each school year the State Department of Education sends out to each local school district offering vocational programs a Vocational Education Funding Policy State Rank List. This document, as shown in Appendix E, ranks occupational programs by federal descriptor (i.e., Accounting Computations) and by CIP Code (Classification of Instructional Programs) number according to the highest employment opportunities. This ranking list is prepared by the Michigan Department of Education using Michigan Employment Security Commission (MESC) data. Added cost funds by occupational priority ranking are distributed to local districts in the following manner:
(a) 60% of funding allocated for selected "top-ranked" occupational programs.

(b) 40% CEPD Option allocation based on each CEPD's selection of individual programs. CEPD's not choosing to select individual programs will automatically be funded by continuing down the State Ranking List of programs. (Michigan State Board of Education, 1989, p. 296)

Local Program Planning and Evaluation

Planning

Planning decisions specify major changes that are needed in a program. Planning decisions occur in response to some perceived need for program change, and the output of planning decisions is in the form of program change objectives (Phi Delta Kappa National Study Committee on Evaluation, 1977).

One can think of vocational curriculum planning as an attempt to balance an equation. On one side of the equation are the manpower needs of business and industry in the community or district. On the other side are the demands and interests of students being served. Somehow, on a continuing basis, each side of the equation should balance the other side. (American Institute for Research, 1976, p. 51)

While the development of a Michigan state plan for vocational education helps describe priority areas for planning, funding, and delivery of programs, the ultimate decision on occupational program selection is left for local determination. Thus, in Michigan, local school districts and area career centers have control over program curriculum planning relative to determining which occupational training programs are to be offered (Wenrich et al., 1988).

Wenrich et al. (1988) continue by stating that planning decisions about vocational education program additions, revisions, or
terminations must be based on valid information. Hamlin and Martin (1976) support this statement by identifying information needed by vocational planners in developing programming plans. They are: indications of future student needs and interests; future manpower projections; projections of availability of instructional staff and training stations; and placement and follow-up data.

Bregman (1979) in citing from the Atteberry Planning Model, lists several components which are basic to any vocational education system involving both strategic and administrative program planning. These components are: (a) population needs, (b) job market opportunities, (c) job performance requirements, (d) student recruitment, (e) curriculum, (f) guidance and counseling, (g) placement, (h) program review, and (i) evaluation (p. 21).

Finch and Crunkilton (1984) emphasized an approach to program and curriculum planning. Their method uses a systematic process to prevent a curriculum or program from becoming static or irrelevant. The process stresses establishing a decision-making process; collecting and assessing school-related data; and collecting and assessing community-related data for determining programming needs. According to this study, the results from this method would provide school districts with a vocational education planning process that is data based, student-oriented, evaluation conscious, and future-oriented.

In summary, Ahmann (1979) states that "synthesizing different kinds of data so that rather clear findings can be presented to decision-makers for program planning continues to be a troubling matter, even though distinctions are quite fuzzy" (p. 23).
Evaluation

Evaluation of vocational occupational training programs at an area career center is a continuous and constant process. It is a process to assist management in obtaining reasonable objective information about programs so that the resulting data can be applied to current and future planning decisions. The underlying purpose of evaluation is to improve program performance (Young & Schuh, 1975).

Michigan subscribes to a comprehensive definition of evaluation of vocational education programs. The Michigan Department of Education describes evaluation as the:

Collecting, organizing, reporting, and interpreting of information to determine whether or not a program was successful in meeting its objectives. This information is used to provide recommendations to decision-makers about modification, expansion, or continuation of a program(s). (Coviello, 1976, p. 3)

Many approaches can be used to evaluate vocational education programs for the intended purposes of deciding which training programs should be added, revised, or terminated. Subjective approaches are often the only means of evaluating vocational programs. Many times one or more individuals are identified as "experts" in some facet of vocational education. They evaluate occupational programming needs from that point of view and present their findings. Many times sound conclusions and recommendations for adding, revising, or terminating programs result from this subjective process. The greatest problem is the fact that the evaluation techniques are based on the evaluator's background and experiences and may not be documented (Hopkins, 1979).
Wenrich et al. (1988) add to Hopkins' point of view by further stating:

Evaluation is the process of being able to make judgments about how good or bad something is. It is a subjective process, and it is only possible to evaluate if a standard has been clearly specified. The subjectivity is reduced only as the specifications of the standard and measurement are clearly described. Thus, the vocational administrator must clearly define what is going to be evaluated, the criteria, and the process for evaluation. (p. 215)

Wentling and Lawson (1975) concludes by saying that the subjective judgment process is not easily made because it integrates our perspective of rationalization and what is perceived to be the best for everyone involved.

Wentling and Lawson (1975) provide a comprehensive description of various evaluation techniques that are appropriate for local program evaluation when considering occupational courses for adding, revising, or terminating. These techniques include: assessment of learner performance, follow-up of former learners, the employer survey, evaluation of training personnel, and cost benefit data. They point out that the technique or combination of techniques selected for an evaluation of programming needs be appropriate to the situation and to the specific local needs. Wenrich et al. (1988), in addition to using the above evaluation measures, add three more criteria: (1) students who completed each program, (2) student competency, and (3) employer-student satisfaction. Hopkins (1979) recommends using the following criteria in evaluating the strengths and weaknesses of current occupational programs: (a) objective of the program, (b) enrollment members in the program, (c) the number of
completers, (d) the competencies achieved, (e) the number of completers available for the labor market, (f) the number of completers continuing education in the field for which they are trained (p. 12).

Coviello (1976) states that evaluation can have an impact on the quality of vocational programming decisions in terms of: (a) planning, through information gathering and determination of program worth; (b) decision-making, through justification of decisions based on objective data; (c) accountability, by relating outcomes to costs incurred; and (d) program improvement for students as the ultimate goal.

Young and Schuh (1975) stress that when considering possible sources of information for use in evaluating and making decisions pertaining to occupational training program additions, revisions, or terminations, five basic questions should be addressed:

1. What sources of information or data are needed or required to answer programming questions?
2. How accessible is the information (i.e., are there limits to the amount of information which can be obtained or on the ways it can be obtained)?
3. How valid and reliable is the information (i.e., will the source consistently provide accurate information or will it be erratic or biased)?
4. Are there other sources of information?
5. Which is the most efficient source to use? (p. 56)
Program Planning and Evaluation Criteria

Since vocational education administrators are compelled to recommend, initiate, expand, and/or terminate occupational training programs, they require information on which to base such decisions or justifications. The research of the literature uncovered many criteria that decision-makers should consider as a basis for planning and evaluating occupational programs. Some of the most important criteria are described below and on the following pages.

Projected Enrollments

Projecting student enrollment in vocational education programs for an area career center is essential to effective course planning. Although a completely satisfactory method for predicting student interest in newly developed and existing occupational programs has not been developed, the most efficient method combines pre-enrollment data with local school district student interest surveys. According to the Proactive Institute (1977), pre-enrollment techniques when combined with student interest surveys can yield information necessary for year-to-year planning. Pre-enrollment techniques encourage students to seek career guidance; and when they are used for students, remain the most efficient predictor of programming needs (p. 32).

Student Interest

The size of current or previous enrollments bears no necessary relation to program quality or effectiveness (Grasso, 1979). One
clearly cannot simply use existing course enrollments as indicative of student interest in a particular program (Young, Clive, & Miles, 1972). Hamlin (1977), in his extensive study of long-range vocational planning by local institutions, adds that to a certain extent, projections of student interest can be tied to enrollment projections; however, assumptions that increase or decrease in vocational education program enrollment will be proportional to an increase or decrease in total enrollment must be made cautiously. Certain programs do exhibit a static rate of student interest, others can fluctuate rapidly with perceived changes in employment opportunities and other factors. Hamlin concluded by saying that it is not suggested that the best determinant of student interest is enrollment history. However, if it is used repeatedly over a period of years this could become a reliable determinant for planning programs (Hamlin, 1977, p. 12).

Job Market Analysis

The emphasis of job market analysis is on determining the areas in which jobs are developing or declining, and then identifying the factors that contribute to this expansion or decline (American Institute for Research, 1976). Ahmann (1979) adds that in spite of certain weaknesses, job market data can be a significant part of assessing occupational training needs for the purpose of modifying the curriculum to better assist the community. This is true when a comparison is made between a vocational education curriculum and the occupational needs of a designated region. Breuder (as cited by Ahmann, 1979) supports this reasoning by stating that labor market
forecasts, local business and industry employment reports, summaries of jobs requested in various occupations, and demographic data should be used for this comparison.

The American Institute for Research (1976) added another dimension to job market analysis. They state that vocational education programs must incorporate manpower needs analysis, but not limit that analysis to a local geographic area. As long as there are existing jobs within the practical mobility potential of the student, preparation of those jobs should be considered by curriculum planners.

Employment Projections

Occupational employment projections often times fall short of the expectations of vocational administrators because school districts are generally political divisions rather than labor market entities. Thus, occupational data will be of limited usefulness to local planners of vocational education programs (Braden & Drishan, 1979). Stevens (as cited by Braden & Drishan, 1979) concludes that vocational educators, in order to retain their discretion in deciding whether to accept or reject the available occupational employment projections, have consistently failed to define the limits on the accuracy of such projections. Braden and Drishan (1979), in citing Paul, pointed out that manpower projections should reflect local economic and industrial development plans and goals. This is one way to make manpower projections relevant and useful for local and state vocational education planning. Finally, Braden and Drishan (1979) quote from Wirtz, "the projections of future occupational
needs remain seriously inadequate especially with respect to local (as compared with nationwide) employment prospects" (p. 25).

Ahmann (1979) concludes by saying that job market projections are based on too large a geographic area--a sizeable region, a state, or even a nation. The projections are based on all openings, not entry-level openings; and they predict job openings due to growth but perhaps not replacement, which is the more important of the two factors (p. 27).

**Placement and Follow-up**

Probably the most important criterion for evaluating vocational-technical programs is the successful placement of its students. However, the data on employment placement and follow-up surveys are harder to obtain. Except in unusual circumstances, follow-up surveys never elicit a complete and accurate response from all students (Wenrich et al., 1988). In agreement with this statement, Hamlin (1977) states that placement and follow-up figures are in no sense precise indicators of how well a specific occupational program is meeting student and labor market needs. In Michigan the rate of returns varies from as low as 40% to as high as 90%, with a statewide average of about 76%. Many variables enter into the question of placement. Many vocational education students have no intention of entering the labor market immediately after graduating from high school. How a school district defines placement will determine whether or not some of these additional variables are entered as "placement" (Hamlin, 1977, p. 22).
Hamlin (1977) concludes by adding that placement history is of relatively little importance to local school districts when industries continually rise and fall in a local labor market.

**Employment Demand/Supply Data**

Demand for and supply of labor have two principal components: the wages earned by a particular occupational group and the number of workers demanded and supplied at those wages. Simply because there may appear to be a shortage in supply of personnel in a particular occupation does not necessarily mean one must therefore set up more training stations for that occupation (Young et al., 1972).

Each state employment security agency is required to provide vocational education with an annual report indicating the demand for and supply of workers (Hopkins, 1979). Employment demand is the number of gross employment opportunities in an occupation or set of occupations. Supply is the number willing and able to work in a given occupation at a given relative wage (Young, et al., 1972).

Despite the fact that a state employment security agency is mandated to provide demand and supply data, many states receive demand data in a format which cannot be used for evaluation. The data lacks general scholastic information on target populations such as disadvantaged persons, handicapped persons, persons with limited English speaking ability, and dropouts. Evaluation is difficult without these data elements (Hopkins, 1979, p. 13).

Questionable accuracy and credibility is a major methodological difficulty in the use of existing demand/supply data for evaluation.
This problem becomes more serious as data are aggregated to state and national levels. In particular, evaluators are often faced with the problem of determining the reliability of demand and supply data. This is further complicated by the way the data are presented by the employment security agencies and training sources. Geographic dis-aggregation of demand and supply data from the current sources is almost impossible (Hopkins, 1979, p. 14).

When trying to determine the manpower needs and supply of any selected occupation, geographical area, or population, school districts will need to obtain information firsthand from local employers, employment agencies, and students. Other suggested methods for collecting manpower supply data are: (a) follow-up on student withdrawals and dropouts to determine why students are leaving the program, and (b) follow-up on graduates to see what difficulties they have once they are employed. Ask them what skills they use and don't use, and how they would revise the program, what other programs they would suggest, and which programs they find outdated (American Institute for Research, 1976, p.16).

Grasso (1979) cites Young's argument that simply knowing the occupation having large numbers of openings is not all that is relevant to decision-making. Many occupations have high turnover characteristics because of abnormally low rates of pay. Although the number of projected net openings should be considered in programming, many other factors are also important, such as entry-level wages, wages at seniority, and job satisfaction.
Employee-Employer Satisfaction

Employee satisfaction and advancement and employer satisfaction contribute important evaluation criteria. If employers find the knowledge, attitudes, and skills of the institution's graduates inadequate or unsatisfactory, program revisions are probably required. One good indicator of educational program adequacy is the extent to which employers have to undertake induction training prior to putting graduates in productive positions (Wenrich et al., 1988).

Another potential guide to vocational education programming is the degree of job satisfaction attained by the graduates of the various curricula. Information on job satisfaction experiences by graduates clearly would add a useful dimension to program appraisal (Young et al., 1972).

Employer Surveys

An employment survey is sometimes referred to as a training needs survey or an area skills survey. Regardless of the specific term, it is simply a technique for determining local-regional manpower needs and opportunities. The employer survey is the approach most used by vocational administrators since it is relatively easy to administer and quickly implemented. The reliability and validity of employer responses may be questionable, however, since many firms do not do planning necessary to project their own needs with any degree of accuracy. One often overlooked advantage of the employer survey is the resulting involvement of local employers in curriculum planning (American Institute for Research, 1976).
Benefit/Cost

A common approach used by industry and government agencies in making decisions is based on the benefit/cost ratio. The probable benefits and costs, direct and indirect, are given a dollar value. This is done by dividing the total dollar benefits by the total dollar costs. If an alternative has a benefit/cost ratio of less than one, then it is discarded. Of all plausible alternatives, the one with the highest benefit/cost ratio is presumably selected (Wenrich et al., 1988).

Two other factors need to be considered, taking into account all the variables that can affect program costs. They are cost per trainee and the cost per placement. Hamlin (1977) specifies a costing factor for each of these as:

\[
\text{Cost Per Trainee} = \frac{\text{program, staff, and other costs, divided}}{\text{by the number of trainees.}}
\]

\[
\text{Cost of Trainee Placed} = \frac{\text{Cost Per Trainee divided by expected}}{\text{placement. (p. 24)}}
\]

Identification, Collection, Analysis, and Limitations of Data for Decision Facilitation

In 1976, the American Institute for Research developed a decision-making evaluation model for program evaluation. The model, called the CSE Model (Center for the Study of Evaluation), uses a process for determining the kinds of decisions that need to be made for selecting, collecting, and analyzing information for solving programming needs. The CSE Model was designed to help vocational administrators and plan-
ners decide among optional courses of action when faced with problems such as how occupational training programs at the local level might be improved or whether a program should be modified, continued, or terminated.

The relative importance of identifying, collecting, and analyzing data sources and the limitations are important key elements in the development of a decision-making model for this project paper. Therefore, the intent and purpose of this last section of the literature review is to make reference to the CSE Model and other sources in order to gain insight and understanding into the mechanics of these methods.

**Data Identification**

Before vocational education evaluators can collect data, they must first know and specify what they are trying to identify or measure. The process of specifying what is to be measured usually involves the construction and listing of a set of program objectives. The second statement is more likely to lead to the proper selection or development of a measuring instrument. Measuring instruments fall generally into three categories: (1) those that require selected or constructed responses; (2) those that employ objective or subjective scoring; and (3) those that test and compare groups of individuals (American Institute for Research, 1976, p. 54). Since the intended purpose of this project paper is to develop an objective process for evaluating occupational programs, the measuring instrument selected will be the objective scoring method.
According to the CSE Model, objective scoring distinction refers to the objectivity of the person who scores or records the measure. The objectively scored measure has specific answers for each question or criterion used in the evaluation. An objectively scored measure is usually preferred by decision-makers because it generally provides more reliable information.

Whatever measuring methods are employed by the evaluator, to be of use to the decision-maker, they must meet four criteria: (1) relevance, (2) comprehensiveness, (3) reliability, and (4) feasibility (American Institute for Research, 1976, p. 55).

Data Collection

The three largest variables in the data collection process are the data source, the methods used to obtain data from the sources, and the people or devices used to collect the data. The evaluator must choose a type of data source that is assumed to have the least bias or one that is in the best position to elicit specific information. In the majority of cases, it is best to employ several data sources so that their various biases and inaccuracies can be compared and at least partly understood. Specific analysis techniques should be justified for each type or group of data. Recommendations by an evaluator should be supported by the data, and conclusions must be succinctly stated and supported by existing (and reported) data (American Institute for Research, 1976, p. 57).

Young and Schuh (1975) state that the key to successful data collection is a well thought out plan that identifies the logistical
activities in advance, provides a basis for logically selecting the personnel required to collect the data, and specifies time guides for judging progress.

Data Analysis

Popham (1972) gives three guidelines for data analysis. They are:

Guideline Number 18. The educational evaluator should analyze data according to the smallest independent units available (i.e., cost per completer per program).

Guideline Number 19. The educational evaluator should, in general prefer descriptive statistics and estimation procedures (i.e., percentage of graduates employed in related occupation for Food Service Program).

Guideline Number 20. The educational evaluator should present decision-makers with a wide range of pertinent information so that choices among alternatives can be made in a cost/effectiveness context. (p. 18)

Limitations of Data

Hopkins (1979) states that regardless of data sources, there are limitations to the use of data for evaluating purposes. These limitations include:

1. Accuracy - The importance of accuracy is unquestionable in statistical reporting. Yet, it is not always possible or feasible to gather precise data. The level of quality or accuracy must be determined in each situation. Finite data should not be gathered in great detail if trend data is all that is needed.

2. Comprehensiveness - Data should be gathered in the detail necessary for evaluation of programs. Different levels of evaluation require different levels of comprehensiveness. Decisions made in this regard because of insufficient data may cause the entire system to lose credibility.
3. **Timeliness** - Information must be available to the evaluation process in sufficient time for analysis to take place. If the information is not available when needed, then the sources become insignificant. The data should be current. The usefulness of data diminishes when it is perceived as stale.

4. **Form** - The manner in which data are presented is important. If data are difficult to interpret, they are not useful. The data must be clear, concise, and understandable.

5. **Coordination** - Data are often gathered from different sources within the same organization. This can cause duplication of data. Danger lies in the fact that conflicting data may be released. It is extremely important for an organization to coordinate the collection and reporting of data. (Hopkins, 1979, p. 12)
CHAPTER V

AN EXAMINATION OF TWO MODELS FOR DETERMINING PROGRAMMING NEEDS

The literature on vocational-technical education abounds with a considerable amount of fine, scholarly material on the principles and concepts of program planning, development, and evaluation. To quote Atteberry (1977), "It seems that every writer on vocational education feels a necessity to climb (or descend) the evolutionary ladder" (p. 47). What the literature seems to lack, however, is an abundance of methodological procedures for incorporating these principles and concepts into a working model or instrument to aid vocational decision-makers in planning and evaluating local programs.

Although the literature did not uncover any specific decision-making model for adding, revising, and terminating occupational programs, the research did produce two credible models for curriculum and program priority determination. Each of the models is characterized by its own distinct uniqueness and quality. Combined, both models employ processes and procedures which seem to add relevancy and similar correlation to the current model development for this project.

From this perspective, an examination of each of the two models is undertaken. The intention is to briefly describe each model, its elements, and strengths and weaknesses. The ultimate goal is to extract various components, concepts, and techniques from the two
models and apply them to the creation of a decision-making model for adding, revising, and terminating occupational programs at the Van Buren Vocational-Technical Center.

Model #1 - The Michigan Department of Education VTES Model

This model has appeared in each issue of the Michigan Department of Education, Vocational-Technical Education Service's annual publication of the Administrative Guide for Vocational-Technical Education in Michigan since 1983. The person or persons responsible for the development of this model are unknown. The model, as shown in Figure 1, entitled "Planning for the Optimal Program Mix" is presented in the form of a simulated procedure. Its primary objective is to offer a suggestive evaluation process to assist local educational agencies and administrators in determining which occupational programs to maintain and/or implement.

The VTES Model has the following features: (a) a list of assumptions to demonstrate need; (b) a simulated problem and task statements; (c) ten steps to follow in working through the simulation; (d) nineteen sample criteria to use in evaluating present programs or selecting new programs (i.e., demand/supply ratio, entry wages, etc.); (e) nineteen definitions for each of the sample criteria (i.e., Entry Wages - the average wage paid per hour of former secondary vocational students based on statewide follow-up surveys); (f) possible sources of data information for the 19 criteria; (g) weighted measures (a weighted measure is used for ranking each of the criteria selected in order of priority for all programs being evaluated); (h) scoring
<table>
<thead>
<tr>
<th>Score</th>
<th>Weight x Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Total</th>
<th>Rank</th>
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<tbody>
<tr>
<td>Criteria:</td>
<td>Weights:</td>
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<td>2. Small Engine</td>
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<tr>
<td>3. Custodial Services</td>
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<td>4. Graphics &amp; Printing</td>
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<td>5. Accounting &amp; Computing</td>
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<td>6. Electrical &amp; Electronics Repair</td>
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<td>7. Machine Shop</td>
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<td>8. Ag Mechanics</td>
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</tbody>
</table>

Score: 3 High - Very Desirable  
2 Average  
1 Low - Very Undesirable

Weight: 3 if any criteria weighted triple  
2 if any criteria weighted double  
1 if all criteria weighted equally

Top 3 Programs: 1. ________________________  
2. ________________________  
3. ________________________

Figure 1. Planning for the Optimal Program Mix.

measures (each criteria chosen is scored (3 = Very Desirable, 2 = Average, 1 = Very Undesirable) based on statistical information obtained from data sources); (i) the scores and weights are multiplied for each program. Each program is then ranked from the highest to the lowest. The top ranked programs would then be the ones offered to students; (j) a simulated worksheet is provided for working through all of the processes; and (k) sample data charts are used from which to draw statistical information when preparing the worksheet.

The model's strengths are that it: (a) provides flexibility for school districts to develop their own criteria, weighted measures, and data sources into a model to fit local needs; (b) includes adequate sequencing of steps in completing the simulation; (c) uses concrete listing of sample criteria; (d) uses weighted measures for each criteria which is a good concept; and (e) provides clear and concise information for criteria and a suggestive way for referencing data sources for each criteria.

The model's weaknesses are:

1. The worksheet format is difficult to use and complete. A sample of a completed worksheet would have been helpful in understanding how the model could be used.

2. The scoring measures need to be more definitive in terms of more objective, concrete definitions, thus reducing subjective judgments.

3. The overall instructional process for completing this simulation is somewhat vague in deciphering the processes and procedures.
Model #2 - Curricular Priority Matrix

The Curricular Priority Matrix was introduced in the *Vocational Education Planning Manpower, Priorities, and Dollars* report published in 1972 (Young et al., 1972). This report involved an indepth examination and identification of various criteria, funding allocation techniques, and data resources that should be incorporated into the vocational education program planning and evaluation processes at the secondary level. As a result of this investigation, the authors, Young, Clive, and Miles, developed a hypothetical matrix approach, as shown in Figure 2, for determining vocational curricular priorities when using several criteria to evaluate current and potential occupational program offerings. The matrix model calls for: (a) formulation and specification of the institution's goals and objectives and their weighted values; (b) selection of explicit criteria (i.e., supply/demand, placement, student interest, etc.); (c) selection of curricular cost criterion for the allocation of resources; and (d) identification, collection, and analysis of internal and external data sources that can be applied to the model.

The authors' underlying assumptions for employment of the matrix model are: (a) a more rational and objective vocational education planning process will occur if specified criteria are applied in evaluating occupational programs; and (b) the use of cost criterion for program funding priorities will make the school system more accountable to their clientele as a means of justifying, as well as garnering their support for current and future programming decisions.
**HYPOTHETICAL CURRICULAR PRIORITY MATRIX**

(For Secondary School Programs)

<table>
<thead>
<tr>
<th>CURRICULUM-OCCUPATION:</th>
<th>Mat. Opening</th>
<th>Student Interest</th>
<th>Academic Performance</th>
<th>Entry Wage</th>
<th>Job Satisfaction</th>
<th>Entry Requirements</th>
<th>Curricular Cost</th>
<th>Disadvantaged</th>
<th>CURRICULAR INDEX</th>
<th>RANK PRIORITY ORDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse, Registered</td>
<td>1*</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>3x2=6</td>
<td>(20)**</td>
<td>x***</td>
</tr>
<tr>
<td>Licensed Practical Nurse</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2x2=4</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Nurse Aide</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1x2=2</td>
<td>(6)</td>
<td>x</td>
</tr>
<tr>
<td>Typist</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2x2=4</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Machinist: Institutional</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3x2=6</td>
<td>(20)</td>
<td>x</td>
</tr>
<tr>
<td>Machinist: Coop Ed</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3x2=6</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Carpenter</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2x2=4</td>
<td>(17)</td>
<td>x</td>
</tr>
<tr>
<td>Computer Operator</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>3x2=6</td>
<td>22</td>
<td>2</td>
</tr>
</tbody>
</table>

*GENERAL RANKING OF CELL SCORES:*  
0 - Inappropriate for vocational education  
1 - low priority score  
2 - Moderate priority score  
3 - high priority score

Figure 2. Curricular Priority Matrix.

Source: Young, R. C., Clive, W. V., & Miles, B. E. (1972). Vocational education planning manpower, priorities, and dollars. (Series No. 68). Columbus: Ohio State University, Center for Vocational and Technical Education, p. xii.
The matrix model has the following elements:

1. The listing of occupational programs by title (vertical axis).
2. A listing of "Priority Criteria" by column including Curricular Cost (horizontal axis).
3. A "Curricular Priority Index" column used for totaling scores across each column for each occupational program.
4. A "Rank Priority Order" column. The evaluator applies the total scores from the "Curricular Priority Index" column and numerically ranks each occupational program in order of priority.
5. A separate page listing of the criteria used in the matrix along with specific weighted values (cell scores) and definitions for each criteria. The ranking of cell scores for calculation are: 0 = inappropriate, 1 = low priority, 2 = moderate priority, and 3 = high priority.

The strengths of the Curricular Priority Matrix model are:

1. Flexibility in being able to adapt the matrix approach to serve local program planning and evaluation activities.
2. Emphasis on curricular-occupational program priority ratings using cost criterion as a basis for budgeting alternatives.
3. An excellent method of using weighted values for each criterion along with a definition of each value (Figure 3).
4. The overall design and construction of the matrix worksheet is perceived as simple to use. It provides a clear and complete picture of the entire scoring system for each program as well as the programs ranked by priority.
Job Satisfaction

0 - Very low job satisfaction.
1 - Moderate job satisfaction.
2 - High job satisfaction.
3 - Very high job satisfaction scores.

Entry Requirements

0 - Some entry requirements make the program inappropriate for vocational education at the secondary level (e.g., post-secondary training is required, and secondary related training is not a prerequisite for that post-secondary training, or, the program might be deemed inappropriate for vocational education financial support if there were no training requirements necessary for entry into the occupation and the untrained were as competent as the trained entrants on the job).

1 - Vocational education may be, but is not always, helpful in obtaining a job; other barriers to entry play an important role.

2 - Pre-employment training will probably be helpful in obtaining a job.

3 - Pre-employment training is critical to obtaining a job.

Curriculum Cost

0 - Prohibitive, or very expensive relative to probable benefits to be received by students (i.e., high cost programs may be highly worthwhile if students' benefits are proportionately high).

1 - High cost program (it would be useful not only to compare costs among vocational education programs but also between vocational education and other programs, the general and academic).

2 - Moderate costs.

3 - Very low cost (say, equal to or less than general and academic programs).

Serving Disadvantaged

0 - The program does not provide satisfactory entry level wages or job satisfaction for the disadvantaged.

1 - The program enrolls a reasonable number of the disadvantaged but provides only modest wages and job satisfaction.

2 - The program enrolls a reasonable number of disadvantaged and provides them with good income and job satisfaction.

3 - The program enrolls a reasonable number of the disadvantaged and provides them with outstanding earnings and satisfaction in employment.

Figure 3. Cell Scores.

The Curricular Priority Matrix model's weaknesses are:

1. The instructions for completing the matrix are left to the imagination of the person using the model.

2. The authors could have provided a sample listing of suggested data sources as a means of showing how these resources could be referenced with each of the criteria selected.

3. Although the definitions for each cell score according to criteria was a conceptual strength of the model, the definitions used were too general. A more precise definition for each cell score per criterion is needed in order for an evaluator to arrive at a more accurate score.
CHAPTER VI

DESIGN AND METHODOLOGY

The goal of this project was to design and develop for implementation a decision-making instrument for use in determining vocational program additions, revisions, and terminations at the Van Buren Vocational-Technical Center. The reason for such an instrument was in response to a need by the Center's administration for an objective evaluative method that would more accurately justify their annual programming decisions. In order to satisfy this need, this project has produced a simplified, step-by-step instrument that incorporates three elements. First, the model provides management with a criterion-scoring technique for evaluating and selection occupational programs. Second, the model identifies specific data sources from which essential evaluative information can be obtained. Third, the model makes use of three matrix worksheets for calculating, scoring, and ranking of occupational programs as a means for determining possible programming options. This chapter is divided in three sections: (1) population, (2) limitations, and (3) instrumentation. The decision-making model itself is found in Appendix H.

Population

The Van Buren Vocational-Technical Center is administered by the Van Buren Intermediate School District with the advice of 11 local school districts in Van Buren County. Both the Intermediate School
District and the Center are located in Lawrence, Michigan. The Vocational-Technical Center serves the job training needs of both adult and secondary students in the County. The Center currently offers vocational training in 27 of the top-ranked 31 specialized occupational program areas in the state of Michigan. During the 1989-90 school year over 800 high school students attended the Center—approximately 45% of the 11th and 12th grade students in Van Buren County. Career development counselors from the Center work with local school district counselors in developing Employability Development Plans (EDP's) for nearly 5,600 students in grades 8-12. The financial resources used to fund and support the Vocational-Technical Center's programs and services are as follows: (a) 63% of the budget is locally funded, (b) 23% of the budget is state funded, and (c) 14% of the budget is federally funded.

The population for the development of this decision-making model consisted of the Van Buren Intermediate School District, the Van Buren Vocational-Technical Center, and the Center's Administrative Program Development Team. This team was comprised of: (a) the Director of Career Vocational-Technical Education Services, (b) Assistant Director of Vocational-Technical Education, (c) Principal, (d) Special Programs and Job Placement Administrator, and (e) Special Education Programs Supervisor. Additional subjects included in the project's development were the 27 occupational training programs offered at the Center and the secondary student population of Van Buren County. Subsequent consideration was also given to the secondary tuition students who normally attend the Center from Cass County. The adult and 13th year
student groups who enroll in classes at the Vocational-Technical Center were not regarded as determinants in the model's application for adding, revising, and terminating of programs.

Limitations

This type of decision-making model for adding, revising, and terminating occupational programs was specifically designed and developed for the Van Buren Vocational-Technical Center and its administrative staff. The selection of distinct criteria along with their definitions, weightings, and cell score values that were utilized in the model may only be applicable to the Van Buren Vocational-Technical Center and the Van Buren Intermediate School District. This particular model for vocational program evaluation and selection may not be generalized or interpreted as an absolute instrument to other area vocational-technical centers or school districts having different goals and objectives, delivery systems and services, and economic and political factors.

Instrumentation

Criteria Selection and Data Source Identification

The Criteria Selection and Data Source Identification Worksheet for Adding, Revising, and Terminating Programs was the first procedure in the development of the decision-making instrument. Three steps were involved in completing the worksheet. The first step was to construct a list of possible evaluation criteria. The final result was a compiled list of 40 criteria which were endorsed by the Center's
administration as a good representative sample for use in evaluating occupational programs. The criteria were acquired from three sources: the Michigan Department of Education, research of the literature, and the Van Buren Vocational-Technical Center.

The second step was the identification of data sources for each of the 40 criteria. This was done to satisfy two essentials: (1) to determine what resources were currently available, when they were available, and where they could be obtained; and (2) to judge whether each resource considered would produce accurate and reliable data. After a thorough investigation, it was concluded that the only available resource data which appeared to be the most reliable and valid came from the Michigan Department of Education's statistical reports on vocational education as well as information they reported from the Michigan Employment Security Commission. The only other data sources available locally were from the Van Buren Vocational-Technical Center's data management files. All of the data sources entered on the worksheet were reviewed by the Center's Director of Career Vocational-Technical Education Services. Some additional data sources were added which supplied more appropriate information.

The third step involved having the Director go through the list of 40 possible criteria and check off ten criteria in each category for adding, revising, and terminating which were judged to be the most suitable for evaluating programs. The decision to use ten criteria in each category was arbitrarily decided upon by the Director as a reasonable number for accomplishing the purposes of assessing programs at the Center.
Criteria Weight Determination Worksheet

The second procedure in the development of the model was the use of the Criteria Weight Determination Worksheet for Selected Criteria (Part I). This chart served two purposes. First, it provided a recapitulation of each of the ten criteria by category chosen from the Criteria Selection and Data Source Identification Worksheet. Second, the chart was used for determining the weight factors for the selected criteria in each of the three categories. The instrument was completed in the following manner. The Director of the Vocational-Technical Center was asked to review each of the ten criteria by category for selection accuracy. Then beginning with the adding category, the instructions were to weight each criterion according to the level of evaluative importance. Each criterion within a category was to receive a value of either a 3 (high priority), 2 (moderate priority) or 1 (low priority). Each value was to be written in the "Weight" column on the worksheet. Additional instructions were that all criteria within a category could conceivably be weighted equally. The same procedures were repeated in the revising and terminating columns. The weights assigned by the Director to the criteria in each category were purely judgmental and based on this person's 25 years of vocational program planning and evaluation experience.

Summary of Selected Evaluation Criteria and Weights

The third method in constructing the decision-making model was the development of a chart called the Summary of Selected Evaluation
Criteria and Weights (Part II). This chart was used for transferring the information from the Worksheet for Criteria Weight Determination (Part I) to this form by recording in rank order the ten criteria and their weighted values for each category of adding, revising, and terminating. The procedures involved selecting all of the criteria that weighted a 3 from the Adding column of Worksheet Part I and recording the criteria in the Adding column along with its assigned weight value in the "Weight" column on the Summary Part II chart starting with #1 at the top. This was followed by listing all criteria that weighted a 2 and concluding with all criteria that weighted a 1. The process was repeated for the revising and terminating categories. If a criterion weight was used more than once, then any criteria within that division could be written in any order.

This completed summary chart provided management with a clear, overall picture depicting all of the criteria and weights that were selected as measures for evaluating vocational programs.

Evaluation Criteria and Cell Score Calculations

The fourth process in the instrument's development was the consolidation of details from the Summary of Selected Criteria and Weights (Part II). The data for adding, revising, and terminating were arranged into three separate sets of reference guides. The title given to each reference is called Evaluation Criteria and Cell Score Calculations. All three reference guides contain the following major components: (a) criteria, (b) definitions, (c) weights, (d) data sources, and (e) cell scores. Specific definitions were written
for all of the criteria listed in each reference guide. The definitions were evaluated by the Director of Career Vocational-Technical Education Services for preciseness and clarity, and they were approved. The final component in completion of the references was the determination of cell score values and cell score meanings for each of the ten criteria by category. The scale decided upon for criterion cell score values was as follows: 3 (high priority), 2 (moderate priority), 1 (low priority), and 0 (inappropriate). The task of establishing cell score meanings for all of the evaluation criteria was given to the Director of the Vocational-Technical Center. The resulting cell score values and their explanation of meaning were again a judgmental decision on the part of the Director.

Matrix Worksheets

The final instrument developed for the decision-making model was the design of a matrix worksheet for vocational programming selection. Three separate worksheets were created—one for each category of adding, revising, and terminating. The format for the matrix worksheet was modeled after the "Curricular Priority Matrix" and the Michigan Department of Education Vocational-Technical Education Services' model which were both described and shown in Chapter V of this project paper.

The principal component of the matrix approach demonstrated in this project is a simple tool for use in calculating, scoring, and ranking of occupational programs for purposes of evaluation and selection. The matrix worksheet is divided into five parts. Part one of the worksheet lists each separate evaluation criterion and its weight.
across the top of the form according to weighted priority. Part two uses a vertical column called "Programs" for writing in the names of occupational programs which are to be assessed. Part three uses scoring boxes or cells under each criterion and next to each program listed. The boxes are divided into two parts: (1) the upper half is used for entering a cell score value obtained from one of the reference guides and (2) the lower half is used for recording the upper half cell score multiplied by the criterion weight value. Part four adds across the form each occupational program's lower half box score to arrive at a "Total Score" for that program. Part five is for the evaluator to rank all of the programs in a category according to the "Total Score" column. The programs are then ranked as follows: (a) highest to the lowest number for adding and revising programs and (b) lowest to the highest number for terminating programs. The ranking numbers are then recorded in the "Rank" column on the matrix worksheet.

The decision as to how far down the "Rank" column of each worksheet an evaluator should go to determine a cut-off point in selecting programs for adding, revising, and terminating is left entirely up to local institutional discretion.
CHAPTER VII

SUMMARY AND RECOMMENDATIONS

The development of a decision-making model for use by management in determining vocational program additions, revisions, and terminations at the Van Buren Vocational-Technical Center was the primary goal of this project. As a result of considerable time, research, and planning, an instrument was perfected in accomplishing this objective. The subsequent phase for this model will be in the form of a proposal by the Center's Vocational Education Director to the Regional #34 Vocational Education Planning Committee for consideration, adoption, and implementation during the 1990-91 school year. Since the model has not yet been field tested and evaluated as to its effectiveness, any results from its application can not obviously be determined at this time. Therefore, this final chapter is divided into only two sections. The first section gives a summary overview of the model's development, composition, and rationale. The second section provides suggestive recommendations for utilizing the model.

Summary

Vocational program planning is always a continuous and time consuming process performed by administrators. This process must be done carefully, objectively, and thoroughly so that information gathered can provide management with reasonably, well-defined programming options on which to base their decisions for improvement. The quality
of management's decision-making ultimately determines the success of
the institution. In order to maintain a level of high quality deci-
sion-making, a useful tool is needed to assist management in obtain-
ing accurate and reliable information about vocational programs so
that the results can be applied to their short-term and long-term
programming efforts. The need for this type of tool was the problem
identified by the management at the Van Buren Vocational-Technical
Center and the subject of this project.

The solution for meeting management's need at the Center was to
design and develop an objective type decision-making model for use in
evaluating and selecting occupational programs. This model or tool
would effectively improve management's decision-making abilities in
planning current and future vocational education programs. The model
would provide more accurate information for determining the extent to
which the Center's current program offerings were consistent with the
job training goals and objectives of the school district. Furthermore,
the model would provide data as evidence in support of management's
proposals for adding, revising, and terminating programs to the
Regional #34 Planning Committee and the Intermediate School District's
Board of Education. Totally, a model developed for use in decision-
making would reduce the subjective and judgmental evaluation methods
that were being practiced by management.

The product for resolving management's needs at the Center was
the decision-making model presented and described in this paper as
a tool for determining occupational program additions, revisions, and
terminations. This model fulfilled five requisites for meeting manage-

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ment's needs. First, the model provides specific evaluation criteria which correspond to the job training goals and objectives of the school district. Second, the model uses in each category of add, revise, and terminate ten criteria along with their definitions, weights, data sources, and cell scores for evaluating occupational programs. Third, the model employs a matrix evaluation worksheet as a means for calculating, scoring, and ranking programs to determine additions, revisions, and terminations. Fourth, the model was designed for use as an annual evaluative monitoring device so that programming plans can be adjusted whenever employment demand, student interest, program performance, and occupational changes occur. Five, the model was developed to be sufficiently flexible. The criteria selected in each evaluation category, their weights, definitions, data sources, and cell scores can be changed or replaced by other criteria in order to meet the changing job market requirements and the evaluation requirements of the school district.

Basic to the underlying rationale for this model's approach to evaluating is the assumption that only by examining vocational programs by specific criteria can vocational education management hope to arrive at a more rational, systematic, and objective process for selecting programs. The results from this process give support to management's justification for programming decisions and make them more accountable to students, parents, taxpayers, and other clientele. This type of decision-making model may not only be considered as a tool for evaluating programs but also as a program implementation tool in making clear to the public the potency of each occupational program.
when weighted against explicit criteria.

This decision-making model developed for the Van Buren Vocational-Technical Center is not viewed as a final product. However, it was an important step in attempting to meet the needs of management in a particular area vocational center. Improvements and refinements of the model's application will only improve its capability and make it a better tool for vocational education administrators in planning, developing, evaluating, and selecting occupational programs at the local level.

Recommendations

The following recommendations are suggested for utilizing the decision-making model by vocational education administrators.

1. Several preparatory activities should be undertaken by management before the model becomes operational. These include: (a) selecting the evaluator; (b) selecting the person responsible for collecting and storing the data sources; and (c) establishing a time frame for collecting the data so that sufficient time is allowed to analyze the data, complete the evaluation process, and prepare the reports.

2. All criteria and their weight determination which are to be applied in the model's evaluation process should be selected and approved by group consensus rather than delegating the responsibility to one person. The group should consist of vocational administrators and the vocational education planning committee.

3. Once the model and its components have been accepted and
approved, the evaluator should not deviate from any of the elements which are contained in the reference guides for adding, revising, and terminating. This will ensure a more accurate and objective evaluation process.

4. The model's components for adding, revising, and terminating should be reviewed and assessed periodically. The administration and vocational education planning committee must evaluate each criterion and its parts (weight, definition, data source, and cell scores) to decide if any criterion needs to be revised or replaced by another criterion.

5. Relationships between the model's elements and decision outcomes relative to adding, revising, and terminating programs should be analyzed over a period of years to establish its accuracy and reliability standards.

6. The search for newly developed and refined data sources should be an on-going process by management in order to improve the model's evaluation accuracy. The need for these data sources, especially statistics on labor market demand, is quite evident at the local and regional levels.

7. Instruments for measuring student interest, job availability, and employer satisfaction need to be continually improved and refined at the local level.

8. A computer-based program needs to be developed for the decision-making model to improve its efficiency. Such a program could be utilized for: (a) input of occupational program titles; (b) input of cell scores; (c) scoring, calculating, tabulating, and
ranking of programs for each matrix worksheet; (d) output of reports for each matrix worksheet showing the compiled data; and (e) modifying or changing any of the model's components.

9. The flexibility of the model can be further utilized by developing separate matrices in evaluating vocational programs for different groups. These groups might include: (a) adult programs, (b) satellite programs in local school districts, and (c) less-than-class-size programs contracted out to business and industry.
Appendix A

Philosophy, Goals, and Objectives
VAN BUREN VOCATIONAL-TECHNICAL CENTER

PHILOSOPHY

The Van Buren Vocational-Technical Center is established on the philosophy that its programming is an extension of the eleven school districts within the service area. Through cooperative effort within these schools there will exist greater educational opportunities for the youth and adults of Van Buren County. Vocational programming at the Center will compliment and give added support to the comprehensive educational programs of the local school districts.

The Van Buren Vocational-Technical Center will embrace the concept that each student is a unique individual. The instructional program and management policies will reflect this position. Students of all ability levels will have the opportunity to attend the Center. Each individual will be accepted into the appropriate instructional program as they are. Programs and course construction will be of sufficiently wide variety to meet student abilities, interests and needs.

The working philosophy of the Van Buren Vocational-Technical Center will permit each individual the opportunity to attain occupational competencies comparable with their interest, aptitudes and abilities. The instructional system will be developed on a format that is student-centered and allows flexibility in meeting individual needs, insures the opportunity for individuals to meet their goals and results in the individual attaining at least entry level job skills. The vocational programs shall expose the students to the occupations attainable within the center instructional program as well as those attainable with advanced training.

The Van Buren Vocational-Technical Center will maintain a high level of quality vocational programming. The facilities, equipment and instructional programs of the Center will reflect the advice of occupational advisory committee as well as others having knowledge in these areas. It is recognized that a highly competent staff working with instructional equipment and materials appropriate to provide quality instruction are required to prepare our young people for today's competitive market place.

The Van Buren Vocational-Technical Center will endeavor to utilize the opportunities for articulation of programming between the Center and the area community colleges to the best advantage for area youth and adults. The Center staff will strive to incorporate the concepts of career development education into the total instructional program. Within the limits of available resources the Center staff will assist in the development of career development education in local school districts.

The Van Buren Vocational-Technical Center will develop a Student Service Staff that will help students in maximizing their personal and occupational capacities. The Administrative Staff of the Center will work to deliver a high quality of vocational programming that is cost effective. The overall design of the management-instructional systems will maintain and support an accountability format. The system will lend itself to objective measure which will identify: what we are going to do, how we are doing it, and how well we have done it.
The Center is committed to constant evaluation of both instructional content and instructional methods. The requirements of our changing times make this imperative. It is a central responsibility of the Center to make every effort to provide the most relevant program possible to each student.

The key element within the working philosophy of the Van Buren Vocational-Technical Center is the recognition that a student-centered program implementation does not just happen. It is the result of planning, instructor involvement, administrative commitment, parent and community awareness. Parallel to this key element is that commitment to the student-centered concept will result in the occupational preparation of our young people in the best possible way to meet the future and its challenges.
VAN BUREN VOCATIONAL-TECHNICAL CENTER

GOALS

Students:
To help students learn to earn by providing vocational education programs in the necessary occupational skills, knowledges, and attitudes to achieve entry-level employment.
To provide within the limits of resources available for "Career Development Education" information to help students explore the relationships between education, work, and career choices.
To provide programming and services to meet individual student needs.
To assist student in obtaining initial employment.
To encourage further growth and development in the students chosen occupational field.
To prepare the individual for acceptance of and adjustment to change.

Local Schools:
To serve as an extension of the local high schools by providing vocational programming which requires specialized facilities and instruction for which individual districts lack sufficient resources or numbers of enrollees.
To encourage and provide direct assistance to local schools in developing exploratory and pre-vocational programming, kindergarten through high school.

Business and Industry:
To provide a source of employees for business and industry possessing job entry skills, knowledge, and attitudes.
To assist in the stimulation of economic growth of existing firms and attraction of new businesses and industries.

Community:
To develop individuals who will become contributing members to the economic well being of the community and thereby good citizens.
To provide facilities and programs to meet the need of training, retraining, and/or upgrading of the out-of-school population through adult and community education programs.
To provide vocational education programming for the youth of Van Buren County of the best quality while also being cost effective and accountable.
EDUCATIONAL GOALS
FOR THE
CAREER AND VOCATIONAL EDUCATION DIVISION

INSTRUCTIONAL PROGRAMS
VAN BUREN VOCATIONAL-TECHNICAL CENTER COMPONENT

The instructional programs of the Van Buren Vocational-Technical Center will:

1. Help students learn to earn by providing the opportunity to acquire the occupational skills, knowledges, and attitudes to achieve job entry level employment.

2. Provide career education opportunities to help students explore the relationships between education, work, and career choices.

3. Encourage students to seek further growth and development in their chosen occupational field.

4. Provide services which fit the desires and abilities of students and reflect the job market.

5. Provide opportunities for training, retraining, and/or upgrading of the out-of-school population.

EDUCATIONAL GOALS
FOR THE
CAREER AND VOCATIONAL EDUCATION DIVISION

PLACEMENT COMPONENT

The Placement Component of the Career and Vocational Education Division will provide services to:

1. Provide that all vocational education students will have access to effective job placement services as they exit from school.

2. Assist students in job entry while they are completing high school through cooperative education, work exploration, and/or work experiences.

3. Employers which will promote ease of movement from training to employment for both student and employer.

4. Aid local schools and Vocational-Technical Center in improvement of programs through follow-up information of students placements.
EDUCATIONAL GOALS FOR THE CAREER AND VOCATIONAL EDUCATION DIVISION

CAREER EDUCATION COMPONENT

The Career Education Component of the Career and Vocational Education Division will provide and assist local schools in providing services to:

1. Help students understand themselves and others.
2. Give the student a knowledge and understanding of the structure and dimensions of the education, work, family, citizen, and leisure worlds.
3. Help the student understand that decision-making and planning are important tasks in everyday life and to recognize the need for life-career planning.
4. Aid students in implementing life-career plans.
5. Develop and implement career education programs in local schools.

EDUCATIONAL GOALS FOR THE CAREER AND VOCATIONAL EDUCATION DIVISION

SPECIAL NEEDS COMPONENT

The Special Needs Component of the Career and Vocational Education Division will provide services to:

1. Enable the disadvantaged and the handicapped students, as defined by adopted guidelines, to obtain basic vocational skills and to develop abilities and interests within the limits of their capabilities.
2. Provide a comprehensive career development, guidance, and counseling program for students with defined special needs.
3. Modify instructional programs, delivery systems, and support services for students with defined handicaps.
Appendix B

Program Enrollment History
### ENROLLMENTS

Based on VE-4483-A and VE-4483-D

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*Program suspended for 1985-86 school year
--Program Not Offered

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Appendix C

Annual Follow-up Surveys
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### Michigan Department of Education

**Vocational Technical Education Service**

#### 1967 Follow-Up Survey of 1965 Students

**Job Satisfaction and Hourly Wage Summary**

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#### 1967 Follow-Up Survey of 1965 Students

**Job Satisfaction and Hourly Wage Summary**

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#### 1967 Follow-Up Survey of 1965 Students

**Job Satisfaction and Hourly Wage Summary**

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Appendix D
Planning and Decision-Making Package
Appendix E

Funding Policy State Rank List
## Vocational Education
### 1990-91 Funding Policy
#### State Rank List

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*New cluster curriculum being developed through the state-wide curriculum development project is occurring in these areas. In addition, curriculum is now being developed in the areas of: Agriscience & Natural Resource Education (02.9999) and Child & Geriatric Care (20.0299).*
Appendix F
Student EDP and Preliminary Enrollments
EMPLOYABILITY DEVELOPMENT PLAN

My name is: ; Plan Date: / / 
My Date of Birth is: / / ; My Social Security Number is: 111119999 
My School is: BLOOMINGDALE; Class of: 1994; My Grade is: 9

A Short Term Career Goal I have is:
Eventually I would like to be a(n):

The way I want to prepare for these careers is through:

I made these decisions based on the fact that I like:
,, jobs,
and prefer working with: PEOPLE, DATA AND THINGS. I value:

I am good at:

I need to improve in:

My Grade Point Averages have been:

9th: 10th: 11th: 12th:

Classes I can take at BLOOMINGDALE that would be helpful are:

Van Buren Vo-tech Center Program(s) that would be helpful is/are:

Other helpful activities would be:

Useful work or co-op experiences I've had, or would like to have:

After I graduate I will:
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| Grand Totals  | 61 | 19 | 49 | 27 | 85 | 74 | 69 | 44 | 33 | 84 | 96 | 90 | 751 |     |     | 114865 |

PRENROLL
Appendix G

Sample Matrix Worksheet for Adding, Revising, and Terminating Programs
Van Buren Vocational-Technical Center
Matrix Worksheet for Adding, Revising, and Terminating

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<tr>
<th>Criteria</th>
<th>Score</th>
<th>Weight X Score</th>
<th>Total Score</th>
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<table>
<thead>
<tr>
<th>Weight</th>
<th>Programs</th>
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</thead>
<tbody>
<tr>
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Appendix H

Procedures/VBVTC Decision-Making Model
Procedures

This section presents the entire decision-making model developed for the Van Buren Vocational-Technical Center. It includes the processing instructions, decision-making charts, and each separate reference guide for adding, revising, and terminating along with its matrix worksheet. At the end of the model is an example of a completed matrix worksheet showing the matrix approach for terminating occupational programs. Seven programs were chosen hypothetically for termination. Using the Reference Guide for Terminating Occupational Programs, each of the seven programs were evaluated against the ten criteria. Scores were then calculated and totaled. If for example, management decided that the top three ranked programs receiving the lowest "Total Score" were to be considered for termination, then Custodial Services, Diesel Mechanics, and Ag. Production would be the programs selected.

It is suggested that vocational administrators and others desiring to use this type of decision-making model for evaluating and selecting vocational programs examine the entire processing steps, documents, and forms before attempting to work through the model.
PROCESSING STEPS FOR DETERMINING OCCUPATIONAL PROGRAM ADDITIONS, REVISIONS, AND TERMINATIONS

Van Buren Vocational-Technical Center

1. Review the possible criteria and data sources from the Criteria Selection and Data Source Identification Worksheet for use in selecting occupational programs to be added, revised, and terminated.

2. Select the ten most significant criteria for each category (add, revise, and terminate) from the Criteria Selection and Data Source Identification Worksheet which best meet the goals and objectives of the school district. Use a check mark to indicate your responses.

3. Record the ten criteria chosen for each evaluation category on the Criteria Weight Determination Worksheet for Selected Evaluation Criteria, Part I.

4. Weight each of the ten criteria selected for adding, revising, and terminating on the Criteria Selection Worksheet, Part I by assigning a value of 3 to the most important criteria, a 2 to moderately important, and a 1 to the least important. Record the values in the "Weight" columns.

5. Use the chart titled Summary of Selected Evaluation Criteria and Weights, Part II to record the information from the Criteria Selection Worksheet, Part I in the following manner beginning with the Adding column:
   a) select all criteria that weighted a 3 and record the criterion and its weight on the chart starting with #1. (If more than one criterion is weighted the same value, then record the criteria and weight in any order desired).
   b) select all criteria that weighted a 2 and record the criterion and its weight on the summary chart.
   c) select all criteria that weighted a 1 and record the criterion and its weight on the chart.
   d) review the completed chart to verify that all criteria and weights in each evaluation category are accurate and listed in order by weight priority.

6. Enter the ten criteria and weights for each evaluation category (according to priority) on the matrix worksheets using the chart.
Summary of Selected Criteria and Weights, Part II as a reference. The worksheets are titled:

a) Adding Programs
b) Revising Programs
c) Terminating Programs

7. Record on each of the matrix worksheets the titles of all occupational programs to be evaluated.

8. Choose a specific evaluation category (either add, revise, or terminate) and complete Steps 9 through 14 below. Repeat the same steps for each of the other evaluation categories.


10. Beginning with Criterion #1 in the guide, look at the data source information for each occupational program listed on the matrix worksheet. Determine the cell score that each program will receive. Enter the cell score for each program on the matrix worksheet in the upper half of the box ("Score"). Repeat the same procedures for Criterion #2 through #10.

11. Score all programs on the worksheet under each criterion column by multiplying the upper half score by the weight. Record the amount in the lower half of each box.

12. Add all scores in the lower half boxes ("Weight X Score") across for each occupational program. Enter the amount in the "Total Score" column of the worksheet.

13. Look at the scores in the "Total Score" column and rank each occupational program as follows: (a) highest to the lowest number for adding and revising and (b) lowest to the highest highest number for terminating programs. Record each ranking number in the "Rank" column on the worksheet.

14. Use the outcome of ranking each occupational program to rationally and systematically support management's decision for adding, revising, and terminating vocational programs.
# CRITERIA SELECTION & DATA SOURCE IDENTIFICATION WORKSHEET
## FOR ADDING, REVISING, AND TERMINATING PROGRAMS

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<td>26. Program Enrollment History</td>
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FOR SELECTED EVALUATION CRITERIA

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<td><strong>Weight</strong></td>
<td><strong>Weight</strong></td>
<td><strong>Weight</strong></td>
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<td><strong>2. Employment Demand Rank</strong></td>
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<td><strong>3. Demand/Supply Rank</strong></td>
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<td><strong>4. Related Placement Rank</strong></td>
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<td><strong>5. Long-Range Growth Rank</strong></td>
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<tr>
<td><strong>6. Student Surveys</strong></td>
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<tr>
<td><strong>7. Employer Surveys</strong></td>
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<td><strong>10. Start-up Costs</strong></td>
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### Part II

**SUMMARY OF SELECTED EVALUATION CRITERIA AND WEIGHTS**

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<tbody>
<tr>
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<td>1. Program Review</td>
<td>1. Program Enrollment History</td>
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<td>Weight (3)</td>
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<td>2. Individual Occupational Program Advisory Committee</td>
<td>2. Individual Program Student/Teacher Ratio</td>
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<td>4. Long-Range Growth Rank</td>
<td>4. Employer Surveys</td>
<td>4. Related Placement %</td>
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<td>5. Demand/Supply Rank</td>
<td>5. Related Placement %</td>
<td>5. Long-Range Growth Rank</td>
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<tr>
<td>Weight (2)</td>
<td>Weight (2)</td>
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</table>
REFERENCE GUIDE FOR ADDING OCCUPATIONAL PROGRAMS
EVALUATION CRITERIA AND CELL SCORE CALCULATIONS
FOR ADDING PROGRAMS

1. Criteria: RELATED PLACEMENT RANK  Weight: 3

Definition: The total statewide follow-up surveys of secondary student graduates who (1) reported they were working for pay and are using their vocational training "Alot" or "Some" on the job OR (2) reported they were continuing their education and were using their vocational training "Alot" or "Some" in their continuing education.

Data Source: Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

Cell Scores: 3 = High, ranked 1 - 15
2 = Moderate, ranked 16 - 20
1 = Low, ranked 21 - 25
0 = Inappropriate, unranked

2. Criteria: EMPLOYMENT DEMAND RANK  Weight: 3

Definition: The ranking of each vocational reimbursed program by Michigan CIP's determined by the average statewide annual job openings (from MESC) based on Occupational Employment Statistics (OES) projections.

Data Source: Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

Cell Scores: 3 = Ranked 1 - 15
2 = Ranked 16 - 25
1 = Ranked 26 - 31
0 = Unranked

3. Criteria: INDIVIDUAL OCCUPATIONAL PROGRAM  ADVISORY COMMITTEE  Weight: 3

Definition: Input via collective advice relative to specific committee recommendations for adding new programs.

Data Source: Records of signed committee meeting minutes and feasibility reports signed by the committee's chairperson.
### Cell Scores:

- **3** = Unanimous decision of membership
- **2** = Two-thirds decision of membership
- **1** = Majority decision of membership
- **0** = Less than majority decision of membership

#### Criteria: LONG-RANGE GROWTH RANK  
**Weight:** 2

**Definition:** The ranking of each vocational reimbursed program by Michigan CIP's according to the increase in net annual job openings as determined by MESC.

**Data Source:** Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

**Cell Scores:**

- **3** = Ranked in top 15
- **2** = Ranked 16 - 20
- **1** = Ranked 21 - 25
- **0** = Unranked

#### Criteria: DEMAND/SUPPLY RANK  
**Weight:** 2

**Definition:** The ranking of each vocational reimbursed program by Michigan CIP's according to the average statewide annual job openings divided by the total state secondary supply (all completers and leavers working or available for work).

**Data Source:** Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

**Cell Scores:**

- **3** = Ranked 1 - 15
- **2** = Ranked 16 - 20
- **1** = Ranked 21 - 25
- **0** = Unranked

#### Criteria: STUDENT SURVEYS  
**Weight:** 2

**Definition:** The examination of 10th grade EDP's (Employability Development Plan) from the 11 Van Buren County school districts relative to student interest in training for a particular occupation or occupational cluster.
**Data Source:** Van Buren Intermediate School District central computer files on student EDP's.

**Cell Score:**

- 3 = Exceeds 40 students
- 2 = 21 to 40 students
- 1 = 1 to 20 students
- 0 = None indicated

**Criteria:**

**EMPLOYER SURVEYS (State or Local)**

**Definition:** State of Michigan current and projected job openings from statewide employer surveys OR the waiving of state data for current and projected job availability locally (Van Buren County) and/or regionally (Berrien, Cass, Kalamazoo, and Ottawa counties).

**Data Source:** Michigan Employment Security Commission state or local employer survey data and Regions 7, 10, and 11 data.

**Cell Scores:**

- 3 = High job prospects
- 2 = Medium job prospects
- 1 = Few job prospects
- 0 = No job prospects

**Criteria:**

**GRANT FUND AVAILABILITY**

**Definition:** Federal and State of Michigan matching funds availability as well as local sources for equipment and facilities.

**Data Source:** Michigan Department of Education, Vocational Education Technical Services published funding policies.

**Cell Scores:**

- 3 = 100% start-up costs, 50-50 matching funds
- 2 = 50-100% start-up costs, 50-50 matching funds
- 1 = 1-50% start-up costs, 50-50 matching funds
- 0 = No funds available
9 Criteria: FACILITIES/SPACE AVAILABILITY  

Definition: The student-space standards required by the Michigan Department of Education for approved occupational programs.


Cell Scores:  
3 = Meets all optimum requirements  
2 = Meets all minimum requirements  
1 = Meets more than half the requirements  
0 = Meets less than half the minimum requirements

10 Criteria: START-UP COSTS  

Definition: The total nonoperational, initial capital outlay costs needed to implement a new program. Low start-up costs are desirable.

Data Source: Estimates according to specifications based on current market costs, bids, and quotes from vendors.

Cell Scores:  
3 = Less than $150,000  
2 = $150,000 to 200,000  
1 = $200,000 to 400,000  
0 = Exceeds $400,000
Van Buren Vocational-Technical Center
Matrix Worksheet for Adding Programs

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Related Placement Rank</th>
<th>Employment Demand Rank</th>
<th>Individual Occupational Long-Range Growth Rank</th>
<th>Demand/Supply Rank</th>
<th>Student Surveys</th>
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<th>GHEM Fund Availability</th>
<th>Facilities/Space Availability</th>
<th>Start-Up Costs</th>
<th>Total Score</th>
<th>Rank</th>
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<tbody>
<tr>
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<td>1</td>
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</table>

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REFERENCE GUIDE FOR REVISING OCCUPATIONAL PROGRAMS
EVALUATION CRITERIA AND CELL SCORE CALCULATIONS FOR REVISI NG PROGRAMS

1. **Criteria:** PROGRAM REVIEW  
   **Definition:** Periodic study and report of each VBVTC cluster or individual program's standard of quality pertaining to instructional program curriculum, instructional delivery, facilities and equipment, and advisory committee.  
   **Data Source:** Published VBVTC Regional Planning Committee Occupational Program Review Summary.  
   **Cell Scores:**  
   - 3 = Average score from Team Review on all program standards of 3.5 or more  
   - 2 = Average score from Team Review on all program standards of 3.0 to 3.4  
   - 1 = Average score from Team Review on all program standards of 2.0 to 2.9  
   - 0 = Average score from Team Review on all program standards less than 2.0

2. **Criteria:** INDIVIDUAL OCCUPATIONAL PROGRAM ADVISORY COMMITTEE  
   **Definition:** Input via collective advice relative to specific committee recommendations for revising an occupational program.  
   **Data Source:** Records of signed committee meeting minutes and feasibility reports signed by the committee's chairperson.  
   **Cell Scores:**  
   - 3 = Recommendation by two-thirds of membership  
   - 2 = Recommendation by one-half of membership  
   - 1 = Recommendation by one-fourth of membership  
   - 0 = No advisory committee input

3. **Criteria:** CURRICULUM QUALITY AND AVAILABILITY  
   **Definition:** The presence and quality of prepared curriculum materials that meet VBVTC requirements for fulfilling an occupational program's training objectives.
**Data Source:** Evidence of available training materials through publishing companies, equipment companies, and other sources.

**Cell Scores:**

- **3** = High quality instructional materials readily available
- **2** = Satisfactory quality instructional materials readily available
- **1** = Acceptable quality instructional materials available
- **0** = No instructional materials available

**Criteria:** EMPLOYER SURVEYS (State or Local)  
**Definition:** State of Michigan current and projected job openings from statewide employer surveys OR the waiving of state data for current and projected job availability locally (Van Buren County) and/or regionally (Berrien, Cass, Kalamazoo, and Ottawa counties).

**Data Source:** Michigan Employment Security Commission state or local employer survey data and Regions 7, 10, and 11 data.

**Cell Scores:**

- **3** = High job prospects
- **2** = Medium job prospects
- **1** = Few job prospects
- **0** = No job prospects

**Criteria:** RELATED PLACEMENT %  
**Definition:** The percentage of VBVTC individual program secondary completers from follow-up surveys who are employed OR continuing their education (unduplicated) in an area they have determined to be related to their high school vocational training.

**Data Source:** Form X-0607, Annual Follow-up Survey of Students Placement Summary of Completers by Program.

**Cell Scores:**

- **3** = Exceeds 55%
- **2** = 26 to 55%
- **1** = 16 to 25%
- **0** = Less than 16%
6 Criteria: STUDENT PERFORMANCE  
Definition: The percentage of all students who are enrolled in a vocational program and are able to attain a specified minimum number of advisory committee validated performance tasks within the curriculum as certified by the program's instructor.
Data Source: VBVTC individual program's student task listing sheets.
Cell Scores:  
3 = 75% or more of the students achieve the specified number of tasks.
2 = 66 to 74% of the students achieved the specified number of tasks.
1 = 50 to 65% of the students achieved the specified number of tasks.
0 = Less than 50% of the students achieved the specified number of tasks.

7 Criteria: EMPLOYMENT UNRELATED  
Definition: The number of VBVTC individual program secondary completers from follow-up surveys who reported they were working for pay, work 35 or more hours per week, and were using their vocational training "Hardly Any" or "None." A 90% follow-up return is desirable.
Data Source: Form X-0607, Annual Follow-up Survey of Students' Placement Summary of Completers by Program.
Cell Scores:  
3 = Less than 45%
2 = 45 to 65%
1 = 66 to 85%
0 = Greater than 85%

8 Criteria: EMPLOYER SATISFACTION  
Definition: The degree of satisfaction employers express for their employees who were formerly VBVTC secondary students.
Data Source: VBVTC employer satisfaction survey instrument.
Cell Scores: 3 = 75% or more satisfied
2 = 50 to 74% satisfied
1 = 35 to 49% satisfied
0 = Less than 35% satisfied

9. Criteria: ON-GOING COSTS PER COMPLETER
Definition: The total annual costs of each VBVTC occupational program divided by the total annual completers in that program. Low costs are desirable.
Data Source: State Department of Education Summaries of Individual Program Costs, Form 4083 and Follow-up Form X-0607.
Cell Scores: 3 = High, does not exceed state average by more than 10%
2 = Moderate, exceeds state average of 10 to 25%
1 = Low, exceeds state average of 25 to 50%
0 = Inappropriate, exceeds state average by more than 50%

10. Criteria: PROGRAM ENROLLMENT HISTORY
Definition: The total annual average (beginning and ending) enrollments by individual program over a period of five years.
Data Source: VBVTC enrollments based on Forms VE-4483A and VE-4483D.
Cell Scores: 3 = Exceeds 30 students
2 = 20 to 30 students
1 = 15 to 19 students
0 = Less than 15 students
Van Buren Vocational-Technical Center
Matrix Worksheet for Revising Programs

<table>
<thead>
<tr>
<th>Programs</th>
<th>3</th>
<th>3</th>
<th>3</th>
<th>3</th>
<th>2</th>
<th>2</th>
<th>2</th>
<th>1</th>
<th>1</th>
<th>Total Score</th>
<th>Risk</th>
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REFERENCE GUIDE FOR TERMINATING OCCUPATIONAL PROGRAMS
# EVALUATION CRITERIA AND CELL SCORE CALCULATIONS FOR TERMINATING PROGRAMS

### 1. PROGRAM ENROLLMENT HISTORY

**Criteria:** Program Enrollment History

**Weight:** 3

**Definition:** The total annual average (beginning and ending) enrollment by individual program over a period of five years.

**Data Source:** VBVTC enrollments based on Forms VE-4483A and VE-4483D.

**Cell Scores:**
- 3 = Exceeds 40 students
- 2 = 30 to 40 students
- 1 = 20 to 29 students
- 0 = Less than 20 students

### 2. INDIVIDUAL PROGRAM STUDENT/TEACHER RATIO

**Criteria:** Individual Program Student/Teacher Ratio

**Weight:** 3

**Definition:** The average of the number of first and second semester students enrolled in an occupational program divided by the number of instructors in that program.

**Data Source:** VBVTC data management reports.

**Cell Scores:**
- 3 = 1:18 to 1:22
- 2 = 1:14 to 1:17
- 1 = 1:10 to 1:13
- 0 = Less than 1:10

### 3. OVERALL OCCUPATIONAL PROGRAM RANK

**Criteria:** Overall Occupational Program Rank

**Weight:** 3

**Definition:** The annual ranking of occupational reimbursed programs (from MESC) based on Occupational Employment Statistics derived from employment demand, demand/supply relationships, related placement, and long-term employment growth.

**Data Source:** Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

**Cell Scores:**
- 3 = Ranked in top 15
- 2 = Ranked 16 to 25
- 1 = Ranked 25 to 31
- 0 = Unranked
4 Criteria: RELATED PLACEMENT %

Definition: The percentage of VBVTC individual program secondary completers from follow-up surveys who are employed OR continuing their education (unduplicated) in an area they have determined to be related to their high school vocational training. A 90% follow-up return is desirable.

Data Source: Form X-0607, Annual Follow-up Survey of Students' Placement Summary of Completers by Program.

Cell Scores: 3 = Exceeds 55%
2 = 26 to 55%
1 = 16 to 25%
0 = Less than 16%

5 Criteria: LONG-RANGE GROWTH RANK

Definition: The increase in net job openings projected over a ten year period for occupations within a vocational program as determined by the Michigan Employment Security Commission.

Data Source: Michigan Department of Education Vocational Education Funding Policy State Rank List (annual).

Cell Scores: 3 = Ranked in top 15
2 = Ranked 16 to 20
1 = Ranked 21 to 25
0 = Unranked

6 Criteria: STUDENT PERFORMANCE

Definition: The percentage of all students who are enrolled in a vocational program and are able to attain a specified minimum number of advisory committee validated performance tasks within the curriculum as certified by the program's instructor.

Data Source: VBVTC individual program's student task listing sheets.
Cell Scores: 3 = 75% or more of the students achieved the specified number of tasks.
2 = 55 to 74% of the students achieved the specified number of tasks.
1 = 25 to 54% of the students achieved the specified number of tasks.
0 = Less than 25% of the students achieved the specified number of tasks.

7 Criteria: COMPLETER/ENROLLEE RATIO  
Weight: 1

Definition: The annual number of VBVTC secondary completers by individual program divided by the average of the number of first and second semester students enrolled in that occupational program.

Data Source: Michigan Department of Education Form X-0107.

Cell Scores: 3 = Exceeds 66%
2 = 50 to 66%
1 = 25 to 49%
0 = Less than 25%

8 Criteria: PROGRAM REVIEW  
Weight: 1

Definition: Periodic study and report of each VBVTC cluster or individual program's standards of quality relative to instructional program curriculum, instructional delivery, facilities and equipment, and advisory committee.

Data Source: Published VBVTC Regional Planning Committee's Occupational Program Review Summary.

Cell Scores: 3 = Average score from Team Review on all program standards of 3.5 or more
2 = Average score from Team Review on all program standards of 3.0 to 3.4
1 = Average score from Team Review on all program standards of 2.0 to 2.9
0 = Average score from Team Review on all program standards less than 2.0

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EMPLOYMENT UNRELATED  
Weight: 1

Definition: The number of VBVTC individual program secondary completers from follow-up surveys who reported they were working for pay, work 35 or more hours per week, and were using their vocational training "Hardly Any" or "None." A 90% follow-up return is desirable.

Data Source: Form X-0607, Annual Follow-up Survey of Students' Placement Summary of Completers by Program.

Cell Scores:  
3 = Less than 45%  
2 = 45 to 74%  
1 = 75 to 85%  
0 = Greater than 85%

ON-GOING COST PER COMPLETER  
Weight: 1

Definition: The total annual costs of each VBVTC occupational program divided by the total annual completers in that program.

Data Source: State Department of Education Summaries of Individual Program Costs, Form 4053 and Follow-up Form X-0607.

Cell Scores:  
3 = High, does not exceed state average by more than 10%  
2 = Moderate, exceeds state average of 10 - 25%  
1 = Low, exceeds state average of 25 - 50%  
0 = Inappropriate, exceeds state average by more than 50%
### Van Buren Vocational-Technical Center
Matrix Worksheet for Terminating Programs

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Program Enrollment History</th>
<th>Individual Program</th>
<th>Student/Teacher Ratio</th>
<th>Related Placement</th>
<th>Long Range Growth Rank</th>
<th>Student Performance</th>
<th>Academic/Non-Academic Ratio</th>
<th>Program Review</th>
<th>On-Going Success Per Competency</th>
<th>Total Score</th>
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Van Buren Vocational-Technical Center
Matrix Worksheet for Terminating Programs

(HYPOTHETICAL EXAMPLE)

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