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A STUDY OF THE RELATIONSHIP BETWEEN COMPETENCY-BASED VOCATIONAL STENOGRAPHER PROGRAMS AND SUCCESSFUL GRADUATE PLACEMENT

By

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ABSTRACT

A STUDY OF THE RELATIONSHIP BETWEEN COMPETENCY-BASED VOCATIONAL STENOGRAPHER PROGRAMS AND SUCCESSFUL GRADUATE PLACEMENT

By

Sherry Hass Anderson

This research study tested the contribution of a competency-based education system to job placement factors as applied to secondary vocational stenographer programs in Michigan. Assuming the goal of those secondary vocational programs was job placement, the measures used were job related questions asked of graduates on the follow-up survey conducted by the Michigan Department of Education. The objectives of the study were to determine if there was any relationship between the degree to which a vocational education program was competency-based and a) job placement rate; b) job satisfaction; and c) salary received.

The data for the study were collected in two efforts. The first effort was the annual follow-up survey of graduates done by local administrators under the direction of the Michigan Department of Education. The second effort was done by the researcher. An index to determine the degree to which a program was competency-based was adapted and mailed

to a random sample of the secondary vocational stenographer programs. There were 23 programs in the sample and a return rate of 73.9 percent. The state follow-up survey had a return rate of 79.5 percent.

The data provides for one conclusion. For secondary vocational stenographer programs in Michigan, competency-based education did not significantly contribute to a) improving the placement of graduates on jobs; b) the job satisfaction of the graduate/employee; or c) the salary received by the graduate/employee.

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No research study is ever completed by a single person. Many people contributed to this effort and here the researcher wishes to acknowledge their contributions.

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A special thanks to my husband Bill, for his assistance, understanding, and patience. Jeffrey, my son, although he hardly understood why his mother could not play, also must be acknowledged.

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CHAPTER I

BACKGROUND AND GENERAL DESCRIPTION OF THE STUDY

Introduction

Competency-based education has been defined as an instructional system in which the knowledge, skills, and/or attitudes are specified before instruction takes place. Competency-based education has also been heralded as the best and sometimes only way to organize and develop curriculum. When the process for implementing a competency-based educational system was introduced in Michigan by Bailey, Bland and Brown[1] they stated that competency-based education would "enhance the quality of instruction as well as the level and efficiency of learning".[2] They were not the only ones to promise results. Craigmile and Shoemaker also claimed greater efficiency and therefore more competent

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[1]Philip Bailey, David H. Bland, and Dan Brown, "Guidelines for the Performance Objectives Development Project", an occasional paper prepared by Michigan Department of Education, Vocational Education and Career Development Service, September, 1972.

[2]Ibid, p. 1.

students. Craigmile[3] made such a promise in his description of a competency-based system for training educational administrators and Shoemaker promised "a more highly satisfied and employable student".[4] In informal discussions at various times, local vocational administrators have reported that the employers have voiced a preference for vocational graduates who had experienced a competency-based system. These employers have expressed an appreciation of the system for its ability to communicate to them exactly what competencies the student had successfully completed. The competency-based educational system had provided for that communication.

It is difficult to find a professional magazine written for vocational education that does not include information about competency-based education. The holdings list from the National Center for Vocational Education at The Ohio State University has over twenty major holdings related to competency-based education. Michigan, in 1972, outlined the process whereby all vocational education was to be competency-based and great efforts have been made to

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[3]James Craigmile and R. Dean Kerr, "Should Greater Emphasis Be Placed - - 'Yes' say Craigmile and Kerr: Improved Preparation of Educational Administrators Through Competency-Based Programming", UCEA Review, Vol. XVI, No. 1, September, 1974, p. 13.

[4]Byrl R. Shoemaker, An Instructional System Design for Vocational Education, Division of Vocational Education, Instructional Materials Laboratory, The Ohio State University, Columbus, June, 1976.

convince teachers and administrators that competency-based education is the best procedure to educate those in vocational education.

Yet, as late as 1974, Jerome Murphy and David Cohen[5] warned that there were no scientific data to support a total change over to competency-based education. In fact, no investigation of the effects of competency-based education on graduates of secondary vocational education programs has been conducted.

Many educators have addressed the need for investigations of this kind and others have suggested why studies were not conducted. Persons such as Hall and Nash suggested that the adoption of competency-based education by the education arena had been like all other innovation adoption in that arena - with an air of casualness.[6] Initially, arguments to support a competency-based system were based in logic or claims of performance not supported by research. McDonald explained that the initial arguments were not research based because the effectiveness of a program "can be assessed only after it has been designed and put into

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[5]Jerome T. Murphy and David K. Cohen, "Accountability in Education - The Michigan Experience", The Public Interest, Number 36 (Summer, 1974), p. 55.

[6]Gene E. Hall, "Implementation of CBTE - Viewed as a Developmental Process", a paper included in Competency Assessment Research and Evaluation, a Report of a National Conference, University of Houston, March 12-15, 1974, p. 252; see also Robert J. Nash, "Commitment to Competency: The New Fetishism in Teacher Education", Phi-Delta Kappan, December, 1970, p. 241.

operation".[7] Andrews[8] suggested that the reason the effectiveness of competency-based education systems had not been documented was that the techniques for such an assessment had not been refined enough to truly validate a program.

Definition of Terms

The following terms were defined as they were used in this study:

1. Competency-Based Vocational Education

Occupational training programs in which required knowledge, skills, and/or attitudes (competencies) are specified before instruction takes place. A competency-based vocational education program has the following characteristics: 1) student performance objectives, based on a job analysis, are specified and made known to students; 2) instructional methodology is geared to the individual student; 3) learning time is flexible; and 4) student evaluation is based on the performance standards needed on the job. (Also called competency-based instruction, performance-based education/

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[7]Frederick J. McDonald, "The Rationale for Competency-Based Programs", Exploring Competency-Based Education. Robert W. Houston, Editor, Berkley, California: McFutrhan Publishing Corporation, 1974.

[8]Theodore E. Andrews, "What We Know and What We Don't Know", Exploring Competency-Based Education. Robert W. Houston, editor, Berkley, California: McFutrhan Publishing Corporation, 1974.

instruction, criterion-referenced instruction, mastery learning, or proficiency-based education.)[9]

2. Job Placement

The situation where a graduate of a vocational program has reported that he/she is employed either full or part-time in a salaried job.

3. Secondary Vocational Education Program

An approved educational training program operated in a secondary school or area center serving eleventh and twelfth grade students. The program, in order to have been approved by the Vocational-Technical Education Service of the Michigan Department of Education, must have met certain criteria relative to equipment, teacher certification, performance objectives, and training needs for the local area.

4. Graduate

A student who successfully completed a secondary vocational education program. The student may or may not have graduated from high school.

5. Follow-up Survey

An information gathering activity conducted yearly by vocational education personnel which provided data needed to make decisions about vocational education. It was

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[9]Donald R. Brannon, Gerald F. Day, and Donald Maley, "What Is Competency-Based Vocational Education (CBVE)?" The Maryland Vocational Curriculum Production Project, Cresaptown, Maryland, 1978, p. 18.

conducted by local education agency personnel of all completers and leavers of vocational programs. It was conducted six to nine months after the close of the year and was required by federal legislation.

6. Performance Objectives

A statement of exactly what the learner must do. A performance objective indicates an activity that can be observed and measured, and contains: 1) the conditions, which describe the situation, limits, tools, and equipment; 2) a behavior, which states exactly what observable behavior the learner must demonstrate; and 3) a standard, which describes how much is required or how precise the quality of work must be. Thus a performance objective answers the questions: Given what? Does what? How well? (Also called behavioral objective, terminal objective, or criterion objective.)[10]

7. Career Education Planning District (CEPD)

A geographic and administrative unit used by the Michigan Department of Education to administer vocational education. There were 53 CEPDs in Michigan. The boundaries were most often county boundaries. The Southern, more populous counties, consisted of a CEPD singularly and the Northern, less populous counties, were grouped two or more counties into one CEPD.

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[10]Ibid., p. 21.

8. Vocational-Technical Education Service (V-TES)
One of thirteen service areas of the Michigan Department of Education. This service area is responsible for distributing both state and federal vocational education monies. In doing so, this service provides for curriculum development, guidelines and policy, teacher inservice, and technical assistance to local and intermediate school districts for the purpose of improvement in the delivery of vocational education at the secondary level.

9. Vocational Stenographer Programs
The vocational education program identified by the U.S. Department of Education code number 14.0703 and defined as an instructional program which prepares students for occupations concerned with minor administrative and general office duties in addition to taking and transcribing dictation. It prepares students for secretarial occupations which require stenography to be used on the job or where stenography is a prerequisite for employment or promotion. In May, 1982, this program code number was changed according to the Classification of Instructional Programs produced by the National Center for Educational Statistics in February, 1981. The program designation was changed to 07.0601, Course 01.

Statement of the Problem

In 1972, the Vocational-Technical Education Service of the Michigan Department of Education began efforts to

require all vocational-technical training programs in Michigan to be conducted using a competency-based system. This commitment was based on a Statement on Educational Accountability adopted by the State Board of Education in 1972. The objective of this study was to ask whether graduates from fully implemented competency-based vocational stenographer programs were more likely to report employment, higher salaries, and higher job satisfaction on the follow-up survey than graduates from vocational stenographer programs that had less than fully implemented competency-based systems.

The implementation of competency-based education in vocational education as described by Philip Bailey, David Bland, and Dan Brown in their planning paper, was to take two years. The plan was initiated in June, 1972, and all programs were to have implemented competency-based systems by September of 1974. A summary of the activities and timelines included in the plan follows:

1. Clarify Terms and Philosophical Base (Completion June, 1972)

A set of common terms and a philosophy was identified and agreed upon.[11]

2. Design Guidelines (Formats, Instructions, Samples) (Completion July, 1972)

The guidelines included both the administrative information necessary to satisfy the requirement to move toward

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[11]Bailey, op. cit., p. 11-17.

competency-based education and material designed to assist local educational agency personnel in doing so.[11]

3. Disseminate Guidelines and Limited In-Service at Local Level (Completion August, 1972)

Selective in-service programs were conducted as a "pre-test" for the materials.[11]

4. Identify Local Personnel by Occupational Programs for Occupational Specialty Committees (OSC's) and Technical Occupational Specialty Committees (TOSC's) (1st Cycle) Completion January, 1973)

Persons were identified by occupational programs throughout the state and brought together as OSC's and TOSC's. These committees had the responsibility of developing the set of performance objectives which served as a guide for the recommended minimum performance objectives for existing and proposed vocational programs throughout the state.[11]

5. Identify Personnel for Special Issue Committees (SIC) Related to Competency-Based Education (Attitude Development, Grading, etc.) (Completion January, 1973)

There were special problems related to competency-based education which were dealt with by the appointment of special ad hoc committees.[11]

6. Local Education Agency (LEA) In-Service Training to Meet 1972-73 Activity Requirement (Completion June, 1973)

In-Service training including understanding the purpose of competency-based education as well as skills for writing performance objectives were implemented at local level.[11]

7. Local Educational Agency (LEA) Development of General Goal Statements to Meet 1972-73 Activity Requirement (Completion June, 1973)

The CEPD Coordinator was responsible for developing a system to identify goal statements for all occupational programs within the CEPD.[11]

8. Occupational Specialty Committees (OSC's) and Technical Occupational Specialty Committees (TOSC's) Develop Recommended Minimum Performance Objecitves (Completion April, 1973)

Each of the OSC's and TOSC's developed initial recommended minimum performance objectives. Each set of objectives was subject to several reviews and modifications.[11]

9. Initial Review of Recommended Minimum Performance Objectives by Others (Completion June, 1973)

Selected groups of in-service teachers, teacher educators, advisory committees, industrial committees, and business committees were formed and/or existing groups were asked to review each set of recommended minimum performance objectives. After this review each committee forwarded their recommendations to the OSC's or TOSC's.[11]

10. Implement Use of Performance Objectives for All Vocational and Technical Programs in All Schools (Completion September, 1974)

Implementation of the recommended minimum performance objectives or their equivalent in all schools throughout the state was to be accomplished by the 1974-75 school year target date.[11]

During the 1974-75 school year, most secondary vocational education programs had, for the record, either adopted the state recommended minimum performance objectives

or had developed performance objectives of their own and had submitted them to the state agency for approval.

The efforts to assure implementation of competency-based education have continued. Each summer, local vocational administrators have signed a document stating that each vocational program was operated using the state minimum performance objectives or locally developed performance objectives. This signature reconfirmed a competency-based program was in operation.

If the efforts on the part of vocational educators in Michigan have been successful, competency-based systems have been implemented in most secondary vocational programs since 1974-75. Yet, in 1974, Jerome Murphy and David Cohen[12] reported that Michigan had no scientific accountability to merit full-scale implementation of a competency-based educational system. Nevertheless, the efforts to implement competency-based education by the Vocational-Technical Education Service and local teachers and administrators continued. Assuming the implementation date was accurate, there were five years of experience with these competency-based vocational education programs in Michigan at the time of this study. It seems that by this time, there would have been enough evidence available to evaluate whether competency-based educational systems make a difference in vocational programs. Have the efforts affected

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[12]Murphy, op. cit., p. 55.

the graduates of the competency-based vocational programs? Should efforts to assure that all programs be competency-based continue?

In an "Accountability Paper" prepared by Vocational-Technical Education Service staff during 1978-79, training of students for job placement was identified as one of the primary measures of vocational-technical education program viability.[13] This purpose was also documented by Byrl Shoemaker in "An Instructional System Design for Vocational Education".[14]

As an evaluation of how well vocational-technical training prepared students for jobs, the federal legislation which authorized federal monies to support such education, required a follow-up of graduates which studied the placement of those graduates on jobs. Thus, as indicated by legislation and by leaders in vocational education, placement was the ultimate criterion for successful vocational education programs.[15]

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[13]Bruce A. Grow, Mary M. Brown, and Nathan T. Avani, "Annual Application Committee Proposal for Determining Program Viability", a planning document prepared for the Vocational-Technical Education Service, Michigan Department of Education, Revised November, 1979, p. 1.

[14]Shoemaker, op. cit., p. 111.

[15]Shoemaker, op. cit., p. 9; see also William C. Knaak, "Competency-Based Vocational Education: A Review", Information Series #115, Columbus, Ohio, The Ohio State University, 1977, p. 36.

For the past six years, Michigan has conducted a follow-up survey of the graduates of vocational education programs. This survey and the procedures for conducting it have been modified annually to improve the quality of the data received. The procedures have provided for contacting all graduates of the vocational education programs in Michigan by mail or by telephone, approximately six to nine months after their graduation. The mailed survey was followed, after a specified period of time, by a second mailed contact. The graduates were also notified prior to graduation that they would be receiving the follow-up survey and were encouraged to return the completed survey.

This follow-up survey of graduates included data related to: 1) whether the graduate had a job related to his/her training or had pursued further, more advanced training; 2) the salary being received; 3) a measure of job satisfaction on the part of the graduate; and 4) the degree to which the vocational training received related to the graduate's job. The data received were used at the state and local level as both an evaluation device and/or a public relations tool. However, the analysis of the data was restricted to descriptive analysis, which produced the percentage of graduates on part-time or full time jobs, average salary received, and the average job satisfaction rating. It was seldom related to other aspects of program

planning or instructional approaches such as competency-based education.

A review of the employment data in Michigan indicated that the vocational education program with the highest number of job openings per year was the stenographer programs. This higher number of job openings indicated a higher potential for placement of the graduates. For this reason, this study limited the focus to these programs.

It has been established that placement was the ultimate goal of vocational education and that many factors impact the successfulness of that goal. Competency-based education might serve functions for the improvement of vocational education programs other than improved placement. Nevertheless, placement was accepted as the ultimate goal of vocational education and the contribution toward that goal by competency-based educational systems was established. Therefore, this study used placement data to assess the contribution of competency-based education toward the goal of job placement.

Need for the Study

In the words of Joan Keller Fischer:

> While self-perceptual reports are one source of information, it is necessary to gather more complete objective data regarding noticeable changes in people's behaviors. The process of CBE, if fully implemented, provides for the gathering of performance data as evidence of program completion. In addition, information

> regarding the effect of learning on situations outside the education program as well as long term effects are needed.[16]

Although Ms. Fischer was speaking to adult education, her observations were probably true for secondary vocational education as well.

The vocational education administrators and teachers of Michigan and other states have invested a great deal of time, energy, and money into the development and implementation of competency-based systems. However, there was negligible documented evidence of the effectiveness of these efforts. What evidence existed, as provided in the research literature from other states and other systems, showed some signs of success, but in most cases, the results were weak and short term, and were not related to the job placement of graduates.

The follow-up survey data collected on all program graduates in Michigan provided information on job placement. These data have not been analyzed in relation to the competency-based education implementation efforts, despite the fact that competency-based education systems had been in place for several years. In order to make decisions

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[16]Joan Keller Fischer, "A Current Status of Competency-Based Adult Education Research", Competency Based Adult Education; proceedings of a National Invitational Workshop edited by Carl E. Kasworm and Buddy R. Lyle, Austin Texas, June 20-22, 1978, p. 156-7.

about further investment in the development of competency-based education, the goals of competency-based education needed to be evaluated.

It seemed timely to analyze the data from the follow-up survey to examine whether a competency-based system did contribute to initial job placement and job satisfaction. The results of this study might help vocational education leaders to decide whether competency-based education systems are the only approach, or one of several alternate ways to deliver vocational education so that the ultimate goal of job placement can be achieved.

The follow-up survey conducted by the Michigan Department of Education had been put to little use other than to report the findings to the U.S. Office of Education. It was hoped that by employing these data for other purposes, such as a measure of the contribution of the competency-based education efforts to job placement, other researchers would investigate further uses of the survey data.

Research Objective

This study proposed to determine if there were any relationships between the degree to which a vocational education program was competency-based and graduate: a) job placement rate; b) job satisfaction; and c) salary received.

Research Hypotheses

The purpose of this study was to test the following hypotheses:

H_1: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the employment rate of the graduates.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the employment rate of the graduates.

H_2: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the degree of satisfaction graduates of those programs feel with their job.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the graduate's rating of job satisfaction.

H_3: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the salary of the graduate.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the salary received on the job by the graduates.

Basic Assumptions

There were five basic assumptions that were made in this study:

1. The student follow-up survey data collected by the Michigan Department of Education was valid and reliable data.

2. The vocational education programs sampled were at various stages of implementing a competency-based system.

3. The vocational director in selected schools was able to accurately rate particular programs to the degree that they were competency-based.

4. Placement of graduates was the ultimate measure of success of vocational education programs.

5. Placement was an integral part of the vocational instructional program in both the traditional and the competency-based programs. Thus, the programs used in this study were considered to be equal in terms of placement activities.

Limitations of the Study

This study and its findings were subject to the following limitations:

1. The findings of this study could be generalized only to secondary vocational stenographer programs in Michigan.

2. Limited control by the State Department of Education may have resulted in various degrees of quality in the follow-up survey data.

3. There may have been a tendency for the local personnel to overrate the degree to which competency-based education had been implemented because of perceived pressures caused by this investigator's position in the Michigan Department of Education.

4. The depressed economic situation of Michigan during the early 1980's may have affected job placement rates which had little to do with the contribution of the competency-based program to placement of the graduates.

5. The function of placement as it was or was not an integral part of vocational education programs may impact placement data and not reflect the contribution of the competency-based system.

Summary

Efforts have been made to implement competency-based vocational education systems in Michigan and nationally. Yet, no measure or test had been used to determine whether this particular system has contributed to more successful job placement at the secondary vocational level.

Since the ultimate purpose of vocational education was job placement, one of the most effective means of determining the contribution of competency-based education to those vocational programs was to analyze the results of job placement data collected on the follow-up survey in relation to the degree to which competency-based education had been implemented.

In this research study, three hypotheses were posed which tested for a relationship between the degree to which a secondary vocational stenographer program was competency-based and the employment rate, the job satisfaction rating, and the salary received by the graduates of those programs. Assumptions were made about the quality of the follow-up survey data which was collected by the Michigan Department of Education, and the ability of vocational directors to rate the vocational stenographer program in the sample. The respondents who participated, the quality control on data not collected by the researcher, the tendency to overrate the degree to which the program was competency-based, and the central effect of economic conditions and placement activity within each vocational program on placement rates limit the study. Major terms that were used throughout the study were defined.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Research and reports on competency-based vocational education seemed to fall into three categories.[1] Those three categories were: 1) competency-based learning materials; 2) competency-based effectiveness studies; and 3) competency-based program descriptions. There were many competency-based vocational education learning materials available to inservice teachers and administrators to assist them in the implementation of the system or for use with students for the purpose of instruction. Most often these materials were sponsored by State Departments of Education and were supported by federal funds. Secondly, there were a very limited number of investigations conducted on the effectiveness of competency-based education systems. Finally, there were an increasing number of descriptions of competency-based programs written by teachers for teachers.

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[1]William C. Knaak, "Competency-Based Vocational Education: A Review". Information Series #115. Columbus, Ohio, The Ohio State University, 1977.

These descriptions were written by authors who generally lacked experience in curriculum development research, or evaluation, and in most cases, the portrayals were not complete.

A review of the literature on evaluation of competency-based education supported the findings by Knaak:

> Emperical research data on instruction in CBVE are lacking at present. The literature is largely devoted to descriptions of the development of objectives and of learning materials, most of which are still not tested or validated. 'Success' of a particular CBVE effort is usually based on what instructors saw, or thought they saw, in classroom or laboratory.[2]

Few publications reviewed by this researcher made mention of evaluation of the competency-based system by following up on graduates of the programs, and they were conducted at the university level rather than the secondary level.

Literature on follow-up surveys also seemed to fall into three categories: 1) "how to" manuals; 2) follow-up studies to determine effective methodology; and 3) actual follow-up studies. There seemed to be a preponderence of "how to" manuals for persons preparing to conduct such studies. The "how to" literature had probably been prompted by the inclusion of a requirement by federal legislation for all vocational education programs receiving federal funds to conduct follow-up on graduates. There were some documented reports of actual follow-up studies which had been conducted.

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[2]Ibid., p. 31.

This number was surprisingly small in light of the fact that all states must have reported follow-up data to the National Center for Educational Statistics. It seems evident that much of the data were collected for compliance reporting only.

The following review of the literature provides an historical description of competency-based education with special attention to efforts made to evaluate the effectiveness of the system; efforts to relate the implementation of competency-based education to the performance of the graduates of such programs; and the use of follow-up survey data as a measure of graduate performance.

Competency-Based Education

In 1973, Allen A. Schmieder in Competency-Based Education The State of the Scene, identified at least seven events that encouraged the movement toward competency-based education to proceed. Those seven "roots" of the competency-based movement were: 1) a continual and conscientious intraspection of the education community; 2) a press for accountability; 3) an increased focusing of political pressure on fiscal issues; 4) a management organization movement; 5) a press for personalization/individualization of education; 6) a desire on the part of State Education Departments to develop more effective certification processes and standards; and 7) the investment of federal funds

in competency-based development efforts.[3] Each of these seven happenings had an effect on the competency-based education state of the art. A further explanation of each is included here.

The education community, according to Schmieder, had continued to explore and experiment in order to improve the quality of education. Prior to, but especially since the 1970's, society had been in a state of rapid and dynamic change. Competency-based education became for many, the answer to coping with societal change and improving the delivery of education.[3]

The 1960's and 70's had also been characterized as a time of dissatisfaction with many existing institutions. Education was under attack. Public disenchantment manifested itself in greater direct involvement by parents and community leaders who felt that schools had not met the needs of their children in schools and the instructional process. Students demanded more relevant education. Education was increasing in cost and taxpayers wanted some indication that education was accountable. In many publications, educators proclaimed that competency-based education was going to solve the problems of the system, and that it responded successfully to the public's dissatisfaction as well as their call for accountability.[3]

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[3]Allen A. Schmieder, Competency-Based Education The State of the Scene. Published by American Association of Colleges for Teacher Education, Washington, D.C. 20036, February, 1973, p. 2-3.

At the local, state, and federal levels, those responsible for budgets embraced the accountability concept. Pressures on administrators, competing for dollars, increased the need for the type of fiscal accountability that competency-based education promised. Since competency-based education pledged a more cost-effective process, it appealed to the policymakers who were making dollar decisions. Thus, in order to demonstrate fiscal responsibilities and accountability, many educational institutions adopted competency-based education systems.[3]

At the same time, management by objective and other management schemes were being introduced in business and industry. Increasingly, these management systems approaches attracted the attention of education administrators, who were overwhelmed by fiscal problems. Educational leaders at the federal, state, and local level were being trained in the management systems approach as it applied to business and subsequently they applied the same approach to the education arena. Their activities encouraged schools to adopt the management systems techniques and thus the competency-based education system.[3]

The 1960's and 1970's were marked by an expanding interest in differences among learners and teaching styles that could accommodate those differences. Cultural and ability differences were being emphasized as well. The technical dimensions of education were also receiving increased emphasis. These new thrusts encouraged demand

by students and parents to request personalization and individualization of education. Competency-based systems promised to accommodate for that individualization.[3]

Meanwhile, the state's share in educational funding and management expanded. This expansion as well as a surplus of educational personnel allowed for raising the standards for selecting teachers. As a result, administrators closely examined competency-based educational systems as a means of streamlining the teacher certification process. In many states, competency-based teacher education systems were adopted.[3]

Finally, a heavy investment of federal funds into competency-based development efforts added impetus to the movement.[3] In 1967, the Bureau of Research in the U.S. Office of Education released a Request for Proposal for "Educational Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Teachers" which resulted in a competency-based model. In 1970, this model was disseminated widely. Consequently, competency-based teacher education became a familiar concept in teacher education. At the same time, the Teacher Corps was seeking a better training model and adopted the 1967 model disseminated by the Bureau of Research. This model proved to be a discernable improvement over models previously used, and consequently, the development and adoption of competency-

based education was further strengthened.[4]

The actual development of competency-based education can be observed as it spread from teacher education, to vocational teacher education, to secondary vocational education programs. The general national overview presented here is followed by a description of how competency-based education was implemented in Michigan secondary vocational education.

Competency-based education was first applied to teacher education in 1968.[5] By 1976, educators at the Center for Vocational Education at The Ohio State University had identified and validated 384 professional competencies needed by vocational-technical teachers. The staff at the Center then proceeded to develop over one hundred modules which have been tested through Florida State University.

From teacher education, the competency-based education movement spread to secondary schools, and because early teacher training development was in the area of vocational education, it was natural for vocational education at the secondary level to take the lead. Many arguments for implementing competency-based education in secondary vocational education assumed that competency-based education could provide for a way to prove that vocational education

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[4]Robert W. Houston, Editor, Exploring Competency-Based Education. McFutrhan Publishing Corporation, Berkley, California 94704, 1974, p. XIV-XV.

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

students were better trained.[6] It was also argued that competency-based education would put vocational students at an advantage in the quest for jobs.[7]

Picking up on the national movement, vocational education leaders in Michigan in 1972 agreed to implement a competency-based system in vocational education throughout the state. A 1972 position statement by the State Board of Education and the Michigan Department of Education entitled, "Educational Accountability" laid the groundwork for moving toward a competency-based educational system.

The 1972 position statement identified six steps toward accountability in secondary schools. Those steps were: 1) establishing goals; 2) developing performance objectives with specific performance measures; 3) conducting a needs assessment to determine disparities between actual and desired outcomes; 4) planning for new delivery systems to bring actual performance and desired performances; 5) providing inservice professional development and evaluation of effort toward accountability; 6) recommending changes

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[6]Carl J. Schaefer, "Putting Competency-Based Instruction in Perspective". Vocational Instruction, edited by Aleene Cross, 1980 Yearbook of the American Vocational Association, Arlington, Virginia 1980; see also Curtis R. Finch, "The Promise of Competency-Based Vocational Education". A paper prepared as part of a monograph on an Inservice Workshop on Competency-Based Vocational Education. Richmond, Virginia, May 9-11, 1979, p. 12.

[7]Schaefer, Ibid., p. 68.

in the system and then recycling through the six steps again.[8]

In response to the direction set by the State Board of Education, vocational education personnel connected with the State Department of Education proceeded to let a Request for Proposal which asked for the development of a plan for implementing competency-based education in vocational education by the 1974-75 school year. The plan was to include inservice for vocational educators in the development of goal statements and the use of performance objectives for the purpose of having goal statements for all vocational education programs by June of 1973. Also during 1972 to 1974, activities were planned to have a set of recommended minimum acceptable performance objectives developed for all secondary and post-secondary vocational education programs. Each local education agency had the option to adopt these state developed performance objectives or to develop their own and submit those locally developed objectives for approval. By the 1974-75 school year, the intended outcome was to have each reimbursed vocational education program defined in terms of performance objectives.[9]

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[8]Michigan Department of Education. "A Position Statement on Educational Accountability for Improved Instructional Services at the Elementary and Secondary Levels in Michigan", March, 1972.

[9]Philip Bailey, David H. Bland, and Dan Brown. "Guidelines for the Performance Objectives Development Project", an occasional paper prepared by Michigan Department of Education, Vocational Education and Career Development Service, September, 1972, p. 1.

At the time of this study, most vocational education teachers had been inserviced and all reimbursed programs had reported whether they were using the state minimum performance objectives in their programs or had developed local objectives. Inservice activities were offered regularly and projects to articulate the objectives of secondary programs to community college objectives were continued. However, no follow-up or evaluation had been done to determine to what extent the secondary programs had fully implemented competency-based education as outlined in the inservice activities, or whether the implementation had the intended impact.

Competency-Based Evaluation Studies

The evaluation studies which relate to the topic of this report include other dissertations and institution sponsored research. A discussion of each of those studies and their relatedness to this study follows.

Dr. Barry Nugent James' dissertation entitled, "An Evaluation of an Assessment System for Performance-Based Teacher Education Programs" done at The Florida State University in 1977 was an assessment of a performance-based elementary teacher education program. This research generated data which was used to determine: 1) whether the competencies used were effective; 2) whether the assessment instruments were effective; 3) whether training procedures were effective; and 4) the most practical and effective assessment procedures. He measured the teacher's

model-related behavior during a lesson, observed and counted model-related pupil behaviors, and tested the pupils' model-related outcome behaviors. Dr. James found that the competency-model did foster knowledge and classroom behavior of teachers. The pupil outcomes measure indicated that the teacher's model-related knowledge and model-related behavior had significant predictive value. Also, a general positive effect was shown toward the performance-based system with minimal time and money investment by the institution.

Dr. James' study used elementary teachers rather than secondary vocational teachers. The model he used was not exactly the same as that developed by Michigan, however, his study did support student outcomes as an appropriate measure of the effectiveness of an education system.

At the University of Missouri-Columbia in 1975, Lowell Warren Tornquist, in his dissertation entitled, "A Parallel Follow-up Study of the Graduates of Competency-Based and Traditional Teacher Education Programs" evaluated an elementary education teacher training system using a follow-up self rating survey instrument and a supervisor rating instrument. The rating instrument measured the progressivism and traditionalism of classroom attitudes of the elementary teachers who had participated in two separate teacher training situations. One group at Southwest Minnesota State College had been a traditional teacher training situation and the other at University of

Missouri-Columbia had been a competency-based training program. His research concluded that the graduates of the competency-based program were: 1) more positive toward their undergraduate program; 2) perceived as more professional in their behaviors and values; and 3) somewhat more progressive in their educational attitudes.

Although the Tornquist study again focused on elementary teacher training programs rather than secondary level teachers as this study does, and the two separate populations were quite different than the procedures used in this study, his use of a follow-up survey instrument of the graduate lended credibility to the procedure used in this investigation. His basic research question was whether the competency-based education system made a difference in the graduates. This question was similar to that investigated herein.

In 1976, John L. Bradley at the University of Southern Illinois evaluated a training program for occupational education administrators which was competency-based. His research entitled, "Evaluation of a Competency-Based Educational Administrative Project" consisted of a pre and post test design. He tested the identified competencies of the program as well as conducted a follow-up survey of the organizational climate of the administrative job the participants had taken following their training. The findings showed that 23 of the 31 participants in fact had administrative jobs following their training and three

had received promotions. The pre/post test design reflected a gain of two cognitive and two affective levels on over eighty percent of the competencies. No conclusive findings resulted from the survey of the organizational climate.

The Bradley study again supported the use of a follow-up survey as an appropriate measure for the effectiveness of a competency-based system. However, the Bradley study did not demonstrate that competency-based systems were any better than traditional programs in changing the organizational atmosphere established by the trainees in their employment. It did suggest that the system was practical and effective. Like the Bradley study, this investigation surveyed the graduates of a competency-based system to determine if the instructional system had an impact on their performance.

In 1975, Michael Locke Botsford conducted a study for his dissertation at California State College which was very similar to that reported in this work. His study sought to determine the effectiveness of the California State College, Dominguez Hills field-centered performance-based teacher education program. Data were collected on the perceptions of program graduates, supervising administrators and supervising chairpersons. The study primarily concerned itself with identifying areas of strength and weakness in the training program.

The sample consisted of the 105 program graduates of 1972-73, the 115 program graduates of 1973-74, and the present supervising administrator and chairperson of the program graduates. Perceptions of the respondents were measured by use of a graduate assessment system questionnaire developed in cooperation with college faculty members. Data were tabulated and presented in percentages of response to selected items which related directly to specific areas of the teacher training program. The return rate ranged from 15 percent to 35 percent.

Although the return rate was rather low, he concluded that: 1) the value of particular training modules was questionable; 2) graduates felt lack of competence in two areas; 3) personnel providing services were highly effective; and 4) supervising administrators rated performance of graduates as superior. Other specific conclusions were drawn, but the ultimate conclusion was that the competency/performance based teacher education program was exceptionally successful and effective in fulfilling the goals and objectives of the program.

Dr. Botsford used a form of follow-up data to test the effectiveness of a competency-based system. Given the low return rates and the exclusive use of perceptions of graduates and their supervisors, the conclusions drawn may be suspect. The Botsford dissertation also addressed university graduates rather than secondary vocational students. However, it did lend support to the follow-up

concept and it did attempt to measure effectiveness of a competency-based educational system. The research herein reported attempted to use more tangible data, that of hours worked per week, and salary to measure the contribution of a competency-based program. The return rate for the 1981 Michigan follow-up was 70.4 percent, much higher. Given these two attempts, the conclusions drawn herein may be more meaningful.

In addition to dissertation research, various institutions had sponsored research related to measuring the effectiveness of competency-based education systems. A review of those projects and their relationship to this study follows.

The Michigan Department of Education, in 1976, under the direction of Robert A. Roth, surveyed teacher training units throughout the United States to collect evidence on the effectiveness of competency-based teacher education. The results of this survey were reported in "A Study of Competency-Based Education: Philosophy, Research, Issues, Models, Etc." Roth conducted two mailed surveys along with an Educational Resources Information Center (ERIC) search. The study received information from 56 institutions and represented 65 programs.

The Roth study found that basically, there were three means of measuring effectiveness of competency-based programs. Growth data taken from pupils of the teachers

receiving training was reported by nine of the returns. Of those, seven showed positive growth and two showed both positive growth and no growth. Thirty-one returns measured effectiveness by testing the teacher trainees for the attainment of the identified competencies. Of the thirty-one returns, twenty-two found positive attainment, three found both positive and no difference in attainment of the competencies, two showed no difference, and four could make no conclusions. Finally, the perceptions of faculty, student graduates, and external evaluators about the achievement of the trainees in the competency-based program and their attitudes toward the particular program was used to measure effectiveness. Of these types of studies, Roth had 45 returns which reported 39 with generally positive results, four with mixed results, and two with mostly negative results. Only two of the institutions conducted any follow-up of the graduates.

Roth's study suggested that there was some evidence that competency-based educational systems did make a difference in the learning of students and thus provided basis for a positive direction on the hypothesis in this study. Roth's report acknowledged that very few, if any, studies had done follow-up with students after graduation, and again, the research was at the teacher training level rather than at the secondary level.

A second institution-sponsored research study in teacher education was done at Syracuse University in New York.[10] The Syracuse study, too, took a look at teacher training and measured student (the teacher trainees) outcomes under the competency-based system. Most of the report consisted of a case history describing the development and implementation of competency-based teacher education. The findings were generally positive, however, this study, along with Roth's coincided with Knaak's observation that there had been "no extensive follow-up research indicating the impact of competency-based instruction in terms of use by teachers in vocational education".[11]

A review of "Vocational Education Research and Exemplary Projects in Indiana-1977" by Nancy E. Sleenhausen showed that the State of Indiana supported much research and development in the areas of validating task lists, implementing and developing curriculum, field testing curriculum and the development of guidelines for performance-based vocational materials. Her review reiterated what had happened in Michigan; no one in Indiana was attempting to

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[10]Margaret Charters, and others. "Emperical Determination of Effectiveness of a Competency-Based Program in Distributive Education Final Report". Syracuse University, New York, School of Education, March, 1976 (ED 137512).

[11]Knaak, op. cit., p. 35.

document the impact of competency-based education on graduate job placement.

One state had reported an investigation of the impact of competency-based education on students. The Commonwealth of Kentucky, in an experimental design research study under the direction of Roger D. Vincent and Robert A. Cobb[12] compared student learning with competency-based vocational education and traditionally delivered vocational education. Their design studied three occupational areas (bank teller, secretary, and tractor mechanics) with four different classrooms in each of the three areas. Cognitive skills, performance skills, time taken to complete, and the student's effort, attitude, and grade were measured and compared.

Vincent and Cobb concluded that the competency-based vocational education students: 1) learned more: 2) were better able to perform entry-level skills; 3) learned faster, and 4) were more motivated than the students in traditional vocational education classrooms.

The Vincent and Cobb study was similar to the investigation reported herein, however, there remained insufficient evidence to determine whether the gains for competency-based education students were carried on to the job. The data did support the idea that competency-based

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[12]Roger D. Vincent, and Robert A. Cobb. "Final Report - Competency-Based Vocational Education: A Study to Measure Its Effectiveness in Kentucky", June, 1977.

education was an effective and efficient training system. The Vincent and Cobb study results were very short-term, based on only three or four modules, taking from 1.2 to 3.6 class periods and not on an entire course. A measure of carry-over to the job, as is reported herein, is much longer in duration.

Follow-Up Surveys

The literature on follow-up surveys fell into three categories. There was literature on how to conduct follow-up surveys which usually included a strong rationale for conducting follow-up studies. There were research reports on methods to make follow-up data valid and reliable (most often they dealt with increasing the return rate on mailed surveys). Finally, there were research reports of actual follow-up studies.

Conducting Follow-up

Krishan Paul and his colleagues provided a very comprehensive document entitled, Final Report on Establishment of a Comprehensive Data System for Occupational Training in Kentucky.[13] This document: 1) provided a strong rationale for using follow-up studies in vocational education; 2) described four kinds of follow-up studies

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[13]Krishan K. Paul, et al. Final Report on Establishment of a Comprehensive Data System for Occupational Training in Kentucky, Columbus, Ohio, Center for Vocational and Technical Education, The Ohio State University, 1972.

which were used and gave examples of actual studies for each kind; and 3) reviewed research on procedures used. The report concluded that there was ample basis for using follow-up studies; there existed the knowledge necessary to make follow-up studies provide meaningful and useful data; and that in the future, the follow-up data would become better and more important. The rationale for conducting quality follow-up studies was particularly important and relevant to this review of the literature. He critiqued the efforts prior to 1972 when he said:

> The dollar amount spent on training surpasses the annual defense budget, and it is perhaps the largest undertaking in the country in terms of employment and jobs. And yet, the success (or failure) of vocational education programs is measured only partially and often intuitively rather than analytically using economic and statistical analyses techniques.[14]

He reported that the efforts had been primarily directed to questionnaire surveys and interviews that had not accounted for bias due to non-response, inadequate sampling, and a lack of coordination between schools. However, he indicated that given the procedures and information necessary for strengthening the follow-up surveys, the vocational education community could, would, and should use follow-up data to measure success or failure of vocational education to produce skilled manpower and verify job placement. With this as the background, the document

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[14]Ibid, p. 2.

reported on other follow-up studies that were being conducted as examples of the good which could be, and were being done, at that time. For the purposes here, Paul's rationale and the examples he provided, supported the procedures and use of the follow-up data as described in this research report.

Prior to the efforts of Paul in Kentucky, Wisconsin had produced Guidelines for Conducting Periodic Follow-up Studies in the VTAE System.[15] This document was intended to provide assistance to vocational technical, and adult education districts in Wisconsin for conducting follow-up studies. It described instruments, procedures, recommendations for preparing reports using the data collected, and suggestions for implementing the findings. This document included a sample mailed questionnaire to be sent to former students approximately one year after graduation. The reader was told to use the data to ascertain the effectiveness of teaching and to establish and evaluate programs. Both the procedures described and the confirmation of the appropriateness of a mailed survey questionnaire supported the procedures and use of the follow-up instrument developed by Michigan in its statewide data collection.

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[15]Wisconsin Board of Vocational, Technical, and Adult Education. Guidelines for Conducting Periodic Follow-up Studies in the VTAE System, Madison, Wisconsin, 1970.

Stephen J. Franchak and Janet E. Spierer developed Evaluation Handbook Volume 1: Guidelines and Practices for Follow-up Studies of Former Vocational Education Students for the National Center for Research in Vocational Education at The Ohio State University.[16] This document also included a rationale for conducting follow-up studies, procedures and data analysis techniques, as well as suggestions for reporting and using the data. The rationale reiterates the justifications proposed by Paul, but used the 1976 vocational education legislation that mandated evaluation of vocational education programs as additional reason for conducting follow-up.

Franchak and Spierer claimed that the most frequently employed method of doing follow-up was the mailed questionnaire. They suggested that this procedure had several strengths. Those strengths were: 1) the questions were standardized to all respondents; 2) the survey could be answered at the convenience of the respondent; 3) the mailed questionnaire might reach those not easily reached such as those without telephone or who had moved; and 4) that personal antagonisms toward interviewers were avoided. They also cautioned that a mailed questionnaire had some weaknesses. Those were described as the

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[16]Stephen J. Franchak and Janet E. Spierer, Evaluation Handbook Volume 1: Guidelines and Practices for Follow-up Studies of Former Vocational Education Students, Columbus, Ohio, The National Center for Research in Vocational Education, The Ohio State University, 1978.

following: 1) the response rates were sometimes as low as 10-20 percent; 2) those questionnaires returned were not necessarily representative; 3) the questions needed to be simple and self-explanatory; 4) the questionnaire needed to be brief; and 5) up-to-date addresses were sometimes difficult to get. Even though these items were listed as weaknesses, the authors assumed they were not insurmountable and proceeded to describe the planning, designing, and conducting of a mailed survey-type of follow-up study. In the procedures, suggestions were made to reduce or eliminate each weakness. For example, procedures for improving response rates were provided, statistical tests and sampling procedures were outlined to assure that the data were representative, and ideas for how to get and keep mailing addresses were also offered.

This "how to" document supported the procedures and the use of mailed questionnaires as appropriate, useful, and the most recognized method of collecting follow-up data on graduates. As will be described in Chapter III, the Michigan graduate follow-up study conformed to the guidelines outlined in this literature.

Finally, in 1980, Edward J. Cervenka produced a Planning Paper 7: Follow-Up Studies in Bilingual Education: Issues and Options.[17] This document also outlined a

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[17]Edward J. Cervenka and others, Planning Paper 7: Follow-up Studies in Bilingual Education: Issues and Options, Arlington, Virginia Development Associates, Inc., 1980.

procedure for conducting follow-up studies, however, on a different population.

Even though the population was different, the rationale, procedures, instruments, and analysis of the data were almost the same as used in this study. Cervenka recognized that mailed survey data lacked the strength of data collected from experimental or quasi-experimental research design. However, he stated that the more rigorous research designs were extremely difficult to produce in any school setting.[18] This not only applied to bilingual education, but to vocational education as well.

Thus, the literature reviewed by this researcher offered documentation for the appropriateness and adequacy of the follow-up survey as a means to evaluate the effectiveness of the education process. The Michigan graduate follow-up survey procedures and instrumentation as described in this report also were established as sound and effective.

Follow-up Survey Procedures

There were also reports in the literature on research undertaken to determine the most effective procedures for conducting mailed questionnaire follow-up studies. In 1976, Rayford T. Lewis worked with four different groups from which he received follow-up data. With each group, a different procedure was used. In all four

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[18]Ibid, p. I-7.

groups a mailed survey was used.[19] Lewis found that the highest return rate of 82 percent was attained by the following procedure: 1) initial mailing of a cover letter and a questionnaire; 2) a reminder post card; 3) a second cover letter and a questionnaire; and 4) a strongly worded cover letter with a questionnaire. Each step was followed by a ten-day period in which to respond and each step was pursued with only the non-respondents of the prior step. This research was done on former students in a junior college. One technique used on a fifth population was personal interview. The interview procedure was not found to produce any more usable data than the mailed questionnaire and cost a good deal more in terms of time and money of the researcher. Thus, Lewis concluded that a mailed survey followed by three contacts produced the best results. He did not find that the inclusion of an incentive (a packet of instant coffee) provided any better return on the surveys.

In contrast to the Lewis study, a report by Pucel and others[20] indicated that an incentive included with a follow-up survey did increase the returns. Pucel had used

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[19] Rayford T. Lewis, Graduate Follow-Up TEX-SIS Follow-Up SC6, Austin, Texas, Texas Education Agency, 1976.

[20] David J. Pucel, The Minnesota Vocational Follow-Up System: Rationale and Methods, Minneapolis, Minnesota, 1973.

colored paper, the inclusion of a pencil to fill out the survey, and a packet of instant coffee. He found that such incentives did increase survey returns. Thus, the literature was inconclusive related to the use of incentives to assure high return rates.

These and other procedural studies reported in the literature supported the procedures and processes used for the Michigan graduate follow-up. Therefore, the follow-up procedures used in this research report were supported as providing credible and valid data.

Follow-up Research Reports

A review of follow-up research conducted by other researchers is included here to support the usage of follow-up survey as an assessment of graduate performance. The questions on Michigan's graduate follow-up survey used in this study were: question number 4 - the number of hours worked per week; question number 6 - the job satisfaction rating; and question number 7 - the salary received. These questions met the criteria set forth in the procedures and examples given by Franchak and Spierer (1978), Cervenka (1980), and Paul (1970). These questions were simple and self explanatory. This criteria was established to assure accurate responses and adequate return rates.

At the university level, Michael Locke Botsford[21]

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[21]Michael Locke Botsford, "Assessing The Effectiveness of a Field-Centered Performance-Based Teacher Education Program" (a dissertation, University of Southern California, 1975).

used a follow-up questionnaire to assess the effectiveness of a field-centered performance-based teacher education program. The study was conducted at California State College where 105 graduates from 1972-73 were compared with 115 graduates of 1973-74. The findings and conclusions of this study have already been reported in this review. The survey design produced data based on the perceptions of program graduates, supervising administrators, and supervising chairpersons. Perceptions of the respondents were measured by use of a graduate assessment system questionnaire developed in cooperation with college faculty members. The questions on the questionnaire included measures of competence, where they were employed, ratings of most valuable sources of instruction in their training program, and ratings of the availability and/or services of college personnel. The conclusions from their study supported the use of follow-up survey data from graduates of different types of programs as a means to assess the effectiveness of a particular technique, in this case, a competency-based educational system.

Again at the university level, Glenn Earl Bettis[22] conducted a follow-up study of Industrial Technology Ph.D. graduates at The Ohio State University. His purpose was to compile a list of those graduates, determine the types

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[22]Glenn Earl Bettis, "A Follow-Up Study of Ph.D. Graduates from The Ohio State University With a Major in Industrial Technology Education" (a dissertation, The Ohio State University, 1973).

of professional experiences they had had since graduation, obtain their evaluation of the program, solicit suggestions for improving the program, determine what services they felt the university should provide after graduation, and derive and state implications of the evaluative data for program revision. He used a mailed questionnaire and achieved an 88.9 percent return. Some of the major conclusions were: 1) the majority of graduates were well pleased with their doctoral program; 2) the majority of graduates became involved in college or university teaching and/or administration; and 3) the majority of graduates had professional writings published since receiving their doctorate. The Bettis research lended support to the use of the follow-up survey and to the use of such questions as employment status, salary, and job satisfaction as able to provide information that could be used to evaluate the contribution of a program of study.

Almost every state conducted a follow-up data collection of its vocational education graduates as a means of complying with federal legislation that requires an evaluation of the programs. A review of the literature, however, showed that few studies had reported the results of their follow-up and these findings had not been documented. The Michigan data collection efforts had not been analyzed to the extent possible. The only analysis done involved: 1) the percentage of returns; and 2) the number

and percent of returns for each response. This was done for each vocational program area. The data were then made available to local vocational administrators for use in planning. A formal report of the findings was not prepared, nor was the data analyzed or compared to other data bases.

There seemed to be ample literature on how to conduct high quality follow-up studies and to support using follow-up data for evaluating programs. There was concensus among researchers on the appropriateness of follow-up data as an assessment tool.

Summary

There was a plethora of competency-based education materials and instructions on how to implement such systems. However, a review of the literature uncovered very few publications which addressed themselves to evaluating that system. Few studies were found that used a follow-up device to evaluate a competency-based educational system, and these studies were conducted at the university level.

A review of the literature surrounding follow-up studies revealed the same kind of imbalance. A wealth of materials on how to conduct follow-up studies existed, but few institutions/agencies reported using the data for program evaluation. There was adequate documentation to support using follow-up data for evaluation, but only a small number of studies reflected such use.

No reports were found that combined secondary vocational education follow-up data, specifically job placement, salary, and job satisfaction data, with an evaluation of the implementation of a competency-based educational system. Therefore, in light of this review of the literature, the use of Michigan's secondary graduate follow-up data to assess the impact of implementing competency-based education seemed justified.

CHAPTER III

METHODOLOGY

Introduction

The objectives of this study were to determine if there were any relationships between the degree to which a vocational education program was competency-based and a graduate: a) job placement rate; (b) job satisfaction; and c) salary received. A measure to determine the degree to which a program is competency-based was adapted by the researcher. This measure was then related to selected responses on the most current Follow-up Survey of former students conducted by the Michigan Department of Education through vocational education directors of the local school agencies.

The Sample

A random sample of twenty-three secondary vocational stenographer programs was drawn from the total of 140 such programs in Michigan. This program area had the highest estimated annual job openings of all vocational education programs. Over 10,000 openings[1] were estimated for 1980-81

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[1]Michigan Department of Education "Vocational Education Employment Demand Program Ranking for FY 1980-81" (an unpublished working paper).

(See Appendix F). This program area served 4,043[2] students during the 1979-80 school year and was chosen to reduce the influence that a low number of job openings could have had on the placement rate of graduates.

The researcher estimated, based on the fact that most programs were limited to 15-25 students because of equipment and space restrictions, that each of the twenty-three programs had an average of twenty graduates at the end of the 1979-80 school year, and those twenty graduates would have been followed up with a survey making a total of 460 graduates. These graduates would most likely be high school graduates, approximately 18 or 19 years of age, and predominately female. The state-wide return rate for stenographer programs in the 1980-81 Follow-up Survey of the 1980 graduates was 79.5 percent, therefore, of the 460 potential graduates the researcher expected to have 366 responses to each of the three questions selected from the Follow-up Survey instrument.

Each randomly selected stenographer program had a vocational administrator who was responsible for conducting the follow-up surveys and preparing reports as required by the State Department of Education. Those twenty-three vocational administrators received and were asked to complete the profile describing the degree to which the stenographer program in the school they represented was

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[2]Michigan Department of Education "1979-80 Enrollment Report", (data reported to the Vocational Education Data System) 1980.

competency-based.

The twenty-three reimbursed secondary stenographer programs were chosen using a table of random numbers. All of the vocational stenographer programs were listed in the order they appear on the taxonomy of reimbursed vocational education programs. That order was first, by Career Education Planning District (CEPD), then within the CEPD numerically, by district code numbers. These programs were then numbered consecutively and the three digit numbers assigned each program were matched to those appearing in a table of random numbers.

The sample included the following twenty-three secondary vocational stenographer programs:

	Program	Assigned Number
1.	Inkster	103
2.	South Redford	112
3.	Wyandotte	116
4.	Southgate	124
5.	Branch Intermediate School District	156
6.	Airport	129
7.	Fowler	136
8.	Plymouth Salem	107
9.	Eaton Rapids	138
10.	Port Huron Central	026
11.	Detroit Murray Wright	099
12.	East Detroit	065
13.	Redford Union	109
14.	Greenville	021
15.	Lincoln Park	104
16.	Detroit Finney	091
17.	Detroit Southwestern	102
18.	Warren Consolidated Cousino	084
19.	Goodrich	030
20.	L'Anse Creuse Career Education Center	074
21.	Grand Rapids Union	046
22.	Dowagiac	132
23.	Kalamazoo Central	055

Instrumentation

Data were collected using two separate instruments. One of the instruments was developed and used by the Michigan Department of Education. That instrument was the 1981 Follow-up Survey (Appendix A). The Follow-up Survey was conducted in April of 1981 on the 1980 graduates of vocational education programs. The data from the survey were first compiled at the local level so that local data analysis could be conducted, then the original survey forms were forwarded to the state agency for keypunching. The Follow-up Survey data were available for analysis in October of 1981. The data on the 1981 graduates would not have been available until the fall of 1982, therefore, the data used in this study were the most recent available.

The second instrument was developed by the researcher (Appendix E). The instrument was a modification of a profile developed by Robert Roth as a way to index "the degree to which a teacher training program is competency-based".[3] The items on the index were derived from a synthesis, by Roth, of an extensive collection of definitions of Competency-Based Teacher Education. Roth identified fourteen definitions from a review of the literature. In addition, he used the essential elements of performance-based teacher education identified in a document entitled,

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[3]Robert A. Roth, A Study of Competency-Based Teacher Education: Philosophy, Research, Issues, Models. Department of Education, State of Michigan, March, 1976.

"'Essential Defining Characteristics of PBTE' as Viewed by the AACTE Committee" in Achieving the Potential of Performance-Based Teacher Education: Recommendations[4] and the essential elements of competency-based education as identified by Stanley Elam in Performance-Based Teacher Education: What is the State of the Art?[5] The items were divided into seven basic components which encompass all facets of competency-based education programs that were described in the definitions found by Roth. The components he identified were: competencies, assessment, individualized instruction, field centered, systematic approach, general program characteristics, and decision-making processes. Each of these components consisted of several factors, the number varying with the component area. The development of this instrument by Roth from the definitions established content validity.

According to Roth, there was unanimous agreement among all the definitions regarding the presence of three of the factors which Roth insisted must be present before

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[4]AACTE, "'Essential Defining Characteristics of PBTE' as Viewed by the AACTE Committee" in Achieving the Potential of Performance-Based Teacher Education: Recommendations, PBTE Series: No. 16, Washington, D.C., American Association of Colleges of Teacher Education, 1974, p. 32-33.

[5]Stanley Elam, Performance-Based Teacher Education What is the State of the Art? PBTE Series No. 1, Washington, D.C., American Association of Colleges for Teacher Education, 1971, p. 1, 2, 6, 7, 8.

an analysis should be made. Therefore, these three items had to be marked "yes" for a program to be considered competency-based for this study. The profile did not provide, beyond the three factors, for a certain number which was needed as a minimum in order to classify a program competency-based. Nor did it imply that only those three were sufficient to have a competency-based program. Beyond the basic three, then, the factors provided an index of the degree to which a program was competency-based. Roth described the purpose of the index to be for "descriptive and/or comparative purposes".[6]

The modifications made by this researcher consisted of changing the word teacher to worker, removing six of the factors which related only to teacher education, references to student teaching were changed to cooperative education experiences, and school personnel references were changed to work supervisor. It was the judgment of the researcher that these changes did not affect the meaning nor the content of the instrument.

The returned instruments were reviewed by the researcher. If the three required factors were not checked the program was considered not to be competency-based and was given a score of 1. If the three were present, the program was considered competency-based and a score was attained by counting the number of factors marked "yes".

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[6]Roth, op. cit., p. 35.

Roth indicated that the factors were to be totaled and that there was no sequencing or weighting of the factors. The higher the score attained, the greater degree to which a particular program was considered competency-based.

Data Collection

The graduate follow-up was conducted by the Michigan Department of Education through local administrators. The State Department of Education provided the process, the forms, inservice for local personnel responsible for conducting the survey, and support in the form of consultants and the provision for using vocational funds to conduct the follow-up survey. The survey was actually conducted by local vocational administrators who were trained by Michigan Department of Education staff. The mailing list was compiled by the local administrator and a coded form was sent to each graduate of vocational education programs. Most of the surveys were mailed with a cover letter to each graduate's last known address, which usually was a parent's address. The forms were returned to the local school where they were logged in. Some local districts chose to use telephone contacts rather than mailed surveys. If a telephone contact was made, the interviewer simply filled out the questionnaire for the graduate, based on the responses given by the graduate on the telephone. The forms returned to the Michigan Department of Education did not indicate which method was used to attain the data.

Non-respondents to the mailed survey were then sent a follow-up letter and another survey form. See Appendix B for a more detailed outline of the process and descriptions of which group of persons were responsible for the activities. The 1981 survey had a 70.4 percent return rate for all graduates[7] and a 79.5 percent return rate for graduates of stenographer programs.[8] The data were contained within the computer at the Michigan Department of Education and were obtained by the researcher in raw data form to be used in this analysis.

The competency-based education index was mailed with a cover letter (See Appendix C) to the individuals identified by the Michigan Department of Education as responsible for enrollment data for each program. The letter requested return of the instrument within two (2) weeks of receipt and was returned to the researcher. A stamped, pre-addressed envelope was included to help assure return. One week after the return date had passed, the researcher followed up with a telephone call to each administrator who had not returned the survey. This procedure did not produce any additional returns. Seventeen of the twenty-three indexes were returned, giving a 73.9 percent return rate on the competency-based education index. Upon

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[7]Bruce A. Grow, "Placement Summary of Completers by Program" (an unpublished data report circulated to V-TES Staff) December 3, 1981, p. 7.

[8]Ibid., p. 3.

receipt of the index, the researcher scored them according to the process described earlier in this report.

Treatment of the Data

Once the scoring on each vocational program was completed, the follow-up data in raw form which was needed for the hypotheses, were drawn from the computer at the Michigan Department of Education. The scoring information was added to the computer data for the selected vocational programs. Hypotheses were then tested, using the Statistical Package for the Social Sciences on the Interactive Computer System located at Michigan State University.

The degree to which a program was competency-based was reduced from a scale of one (1) to forty-seven (47) to a three category scale. Those programs whose score on the scale was ten (10) or less were determined to not be competency-based, those with scores from eleven (11) to thirty-nine (39) to be somewhat competency-based, and those whose score was forty (40) to forty-seven (47) were determined to be fully competency-based.

Each hypotheses was then tested using the data presented by the two collection efforts. Hypothesis One, tested the relationship of competency-based education to the graduate's employment rate and used the Chi Square Statistic. Graduates reporting that they were working zero (0) hours were determined to be unemployed, those working for one (1) to thirty-four (34) hours were determined to be

working part-time, and those working thirty-five (35) hours or more were determined to be working full time. Those reporting that they were in military service were determined to be working full time also.

Hypothesis Two, tested the relationship of competency-based education to the graduate's job satisfaction rating and also used the Chi Square statistic.

The third hypothesis, tested the relationship of competency-based education to the graduate's reported salary and used the Spearman Correlation Coefficient. The salary was not categorized but left as a continuous variable compared to the competency-based categories described earlier.

Summary

To test the hypotheses, a sample of 23 secondary vocational stenographer programs were drawn from the total of 140 which operated during the 1979-80 school year. Two sets of data were then collected on each program: 1) the degree to which the program was competency-based; and 2) follow-up data on the graduates which provided their employment rate, job satisfaction, and salary they were receiving.

The follow-up data were collected by local school vocational administrators under the direction of the Michigan Department of Education and was attained by the researcher from the computer at the Department. The follow-up survey had a 79.5 percent return rate.

The degree to which the sample programs were competency-based was collected by the researcher using a modified version of Robert Roth's profile developed to index the degree to which a teacher training program was competency-based. A 73.9 percent return rate was accomplished with this instrument.

The degree to which a particular secondary vocational stenographer program was competency-based was tested against each of the three data items taken from the follow-up survey: job placement rate; job satisfaction rating; and graduate salary. All results are presented in narrative as well as table form in Chapter IV.

CHAPTER IV

ANALYSIS AND PRESENTATION OF DATA

Introduction

The objective of this study was to determine if there were any relationships between the degree to which a vocational education program was competency-based and graduate: a) job placement rate; b) job satisfaction; and c) salary received. The investigation was limited to a random sample of secondary vocational stenographer programs and used two data collection instruments. The graduate employment data were collected using the 1981 Follow-up Survey data. It was collected by local vocational administrators under the direction of the Michigan Department of Education, and was stored in the computer there. The original data received on the follow-up survey were used for this analysis. The degree to which the sample programs were competency-based was collected by the researcher using an instrument adapted from an index developed by Robert Roth to determine the degree to which a teacher training program was competency-based. All the data collected are presented and analyzed here.

Report of Data Collected

The results of the data collection efforts are as follows.

Employment Status

The employment status of the graduates was collected on the 1981 Follow-up Survey of the 1980 graduates of vocational education programs. Question number 4 on that survey inquired about the number of hours per week the graduates were employed.

There were 119 graduates in the sample of secondary vocational stenographer programs who reported that they were employed more than 36 hours per week, or full time. This represented 45.1 percent of the total 264 respondents. Sixty-two reported part-time work or 35 hours or less per week. The part-time workers represented 23.5 percent of the total. Unemployment, or working 0 hours per week, was reported by 83 graduates, or 31.4 percent of the total. The unemployed graduates included those who were looking for work, those who were not looking for work, and those not available for work because they were attending school. All three groups may have included those graduates who were attending school in advanced training programs. The largest number of graduates reported working full time, and 68.5 percent of the 181 of the graduates were working either full or part-time. The average number of hours worked a week was 23.356.

Therefore, Table 1 shows that the largest group of respondents were employed full time. That group was nearly one-half of the total respondents. The smallest group in number were working part-time. This group was nearly one-quarter of the total. One-third of the graduates reported being unemployed.

TABLE ONE

EMPLOYMENT STATUS OF GRADUATES
(N = 264)

Employment Status	Number of Graduates	Percentage of Graduates
Full time (> 36 hours per week)	119	45.1
Part-time (< 35 hours per week)	62	23.5
Unemployed	83	31.4

Mean = 23.356

Job Satisfaction Rate

The measure of job satisfaction was obtained from question number 6 on the 1981 Follow-up Survey. That question asked graduates to check one response. Those response choices were: very satisfied; somewhat satisfied; not very satisfied; and not at all satisfied.

Of the 264 graduates, 86 or 32.6 percent left this question blank on their return follow-up survey. Of the graduates who did respond, most, 85 graduates or 32.2

percent, were very satisfied. Sixty-five, or 24.6 percent, reported that they were somewhat satisfied. The response of not very satisfied received 21 responses or 8 percent of the total and only 7 reported they were not at all satisfied with their jobs. The seven who reported that they were not at all satisfied represents 2.7 percent of the total of graduates who reported their job satisfaction. (See Table 2)

In general then, the graduates of the vocational stenographer programs were either very or somewhat satisfied with their jobs. Few were not very or not at all satisfied with their jobs.

TABLE TWO

JOB SATISFACTION RATE OF GRADUATES
(N = 264)

Job Satisfaction Rate	Number of Graduates	Percentage of Responses
Very Satisfied	85	32.3
Somewhat Satisfied	65	24.6
Not Very Satisfied	21	8.0
Not At All Satisfied	7	2.7
No Response	86	32.6

Salary Rate

The salary of the graduates was also collected as part of the 1981 Follow-up Survey. Question number 7 of

the survey asked the graduates to insert their wage rate per hour. The salaries reported ranged from $2.50 per hour to $8.00 per hour. The average salary was $4.15 per hour.

Most graduates reported receiving the minimum wage rate of $3.35 per hour. There were 30 graduates who reported working at minimum wage. The second most frequent response was $4.00 per hour, reported by 14 graduates. Ten graduates reported they were receiving $4.50 per hour. Nine reported they were receiving $3.50 per hour, seven reported $3.75 per hour, and six reported $5.00 per hour. The remaining 38 wage rate amounts received no more than three responses each. Twenty-eight wage amounts received only one response. See Table 3 for more detail.

One hundred twenty-five of the 264 respondents did not respond. Of the 125, 83 were unemployed and consequently not receiving a salary. The remaining 42 who were employed did not report their salary rate.

The range of salary rates of graduates was broad. The largest number of graduates reported receiving the minimum wage rate. Few graduates reported receiving a wage over $4.50 per hour and a few were receiving less than minimum wage.

Number of Graduate Returns for Each Program

The largest program in terms of graduate responses on the 1981 Follow-up Survey was Warren Consolidated Cousino with 47 graduate returns; the smallest was Grand Rapids Union with only two. Port Huron Central reported five graduate

TABLE THREE

SALARY RATE REPORTED BY GRADUATES
(N = 264)

Salary Rate Reported	Number Reporting	Salary Rate Reported	Number Reporting
$2.50	1	$4.45	1
$2.51	1	$4.50	10
$3.34	1	$4.60	3
$3.35	30	$4.65	1
$3.38	1	$4.70	1
$3.40	1	$4.75	4
$3.41	1	$4.84	1
$3.44	1	$4.85	3
$3.45	2	$4.95	1
$3.50	9	$5.00	6
$3.55	1	$5.25	3
$3.60	3	$5.35	2
$3.70	1	$5.51	1
$3.75	7	$5.68	1
$3.85	3	$5.71	1
$4.00	14	$5.73	1
$4.05	1	$6.00	2
$4.10	1	$6.23	1
$4.13	1	$6.26	1
$4.15	2	$6.30	1
$4.25	5	$6.40	1
$4.33	1	$8.00	1
$4.35	3		
$4.40	1	Blank	125

Mean = $4.15
Mode = $3.35

returns, as did Goodrich. Kalamazoo Central reported seven returns, and Dowagiac reported nine. Ten responses were returned from Fowler and eleven responses were received from Redford Union. The L'Anse Creuse Career Education Center reported thirteen returns. Two schools reported

fifteen returns; they were Airport and Plymouth Salem. Sixteen returns were reported by two schools. They were Eaton Rapids and Greenville. Lincoln Park and East Detroit reported 22 returns and the Branch Intermediate School District and Wyandotte reported 24 and 25 respectively. (See Table 4)

TABLE FOUR

NUMBER OF GRADUATE RETURNS FOR EACH PROGRAM IN THE SAMPLE (N = 17)

Program	Number of Returns
Airport	15
Branch Intermediate School District	24
Dowagiac	9
East Detroit	22
Eaton Rapids	16
Fowler	10
Goodrich	5
Grand Rapids Union	2
Greenville	16
Kalamazoo Central	7
L'Anse Creuse Career Education Center	13
Lincoln Park	22
Plymouth Salem	15
Port Huron Central	5
Redford Union	11
Warren Consolidated Cousino	47
Wyandotte	25

Mean = 16

The average number of graduate returns for each secondary vocational stenographer program was 16. They ranged from very large to very small programs as indicated

by the number of returns on the follow-up survey. One program consisted of more than one section and had a large number of returns. The majority of the programs reported less than 20 returns.

The Follow-up Survey data, when reported to the Michigan Department of Education, were such that no information identifying a particular student was transmitted to the department along with the survey data. This was by design and in compliance with Michigan's Right to Privacy Act. Therefore, no demographic data were available on the graduates.

Program Score on Competency-Based Rating Index

Data regarding the degree to which competency-based education had been implemented were collected using a researcher-adapted index. The instrument was mailed to the vocational administrator of each of the sample programs. For scoring purposes, the number of "yes" responses were tabulated. If a score of ten (10) or less was received, the program was considered to not be competency-based; a score between eleven (11) and thirty-nine (39) was considered somewhat competency-based; and a score of forty or more was determined to be fully competency-based.

Five programs were determined by the researcher to have failed to meet the criteria for a competency-based program. They were Eaton Rapids, Fowler, Greenville, L'Anse Creuse Career Education Center, and Kalamazoo Central. No programs scored between two and thirty. Eight programs

scored between 31 and 39. They were Grand Rapids Union with 31, Dowagiac at 32, Redford Union received 33, East Detroit and Wyandotte at 35, Airport and Goodrich at 36, and Warren Consolidated Cousino at 37. These programs were considered somewhat competency-based. Four programs scored between 40 and 49, and were determined to be very competency-based. They were Port Huron Central and Plymouth Salem, each with a score of 40, Branch Intermediate School District with 41 and Lincoln Park with 42.

The majority of the programs were somewhat competency-based. (See Table 5) The number of programs which scored as either not competency-based or very competency-based was smaller.

Number of Returns from Each Category of Score on Competency-Based Index

Of the 264 returns, 62 or 23.5 percent represented programs which were not considered competency-based by the measure used in this study. The somewhat competency-based category represented 136 or 51.5 percent graduate returns and 66 or 25 percent were graduates from programs that were very competency-based. (See Table 6)

The number of graduate returns in each category on the competency-based index was consistent with the number of programs in each category. (See Table 5) The most graduates were from programs somewhat competency-based and the number of graduates in the other two categories was smaller and similar in size.

TABLE FIVE

PROGRAM SCORE ON COMPETENCY-BASED RATING INDEX
(N = 17)

Program	Score	
Eaton Rapids	1	Not Competency-Based
Fowler	1	
Greenville	1	
L'Anse Creuse Career Education Center	1	
Kalamazoo Central	1	
Grand Rapids Union	31	Somewhat Competency-Based
Dowagiac	32	
Redford Union	33	
East Detroit	35	
Wyandotte	35	
Airport	36	
Goodrich	36	
Warren Consolidated Cousino	37	
Port Huron Central	40	Very Competency-Based
Plymouth Salem	40	
Branch Intermediate School District	41	
Lincoln Park	42	

TABLE SIX

NUMBER OF RETURNS FROM EACH CATEGORY OF SCORE ON COMPETENCY-BASED INDEX (N = 264)

Competency-Based Score Category	Number of Returns
Not Competency-Based	62 (23.5%)
Somewhat Competency-Based	136 (51.5%)
Very Competency-Based	66 (25%)

Research Hypotheses

The purpose of this study was to test three hypotheses which were presented in both the directional and null form. The results of the data analysis are presented here in both narrative and table form.

Hypothesis One

H_1: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the employment rate of the graduates.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the employment rate of the graduates.

The cross tabulation of the employment rate of the graduate and the degree to which the program they graduated from was competency-based showed that there were 264 graduates included in this study and there were no missing

cases. The scores on the competency-based index were grouped into categories from not competency-based which included all programs who scored between one and nine, to somewhat competency-based for those programs who scored between ten and 39, and finally, those programs considered very competency-based and who received scores of 40 or more. The employment rate was grouped into full time, part-time, and unemployed. Full time employed graduates were those who reported working more than 36 hours per week. A report of between one (1) and 35 hours per week was considered part-time and zero (0) hours was considered unemployed.

The largest number of responses were for graduates who were full time employed and whose programs were somewhat competency-based. Fifty-seven (21.6%) graduates were included in that cell. The cell which included those unemployed and whose programs were somewhat competency-based was the next largest cell with 51 (19.3%) responses. The cell created by cross tabulation of full time employment with very competency-based received 32 (12.1%) responses. Thirty (11.4%) of the responses were in the full time employment and not competency-based cell. These were followed by the cell for somewhat competency-based and part-time employment which received 28 (10.6%) responses and very competency-based and part-time employment which received 21 (8.0%) of the responses. The cell of not competency-based and unemployed contained 19 (7.2%) responses. The two smallest cells both included 13 (4.9%) of the responses and were the not-

competency-based part-time employment and very competency-based unemployed.

The cross tabulation indicated that the responses were distributed into all categories. No cell received more than 25 percent of the responses and the smallest cell contained 4.9% of the respondents. The largest cells were in the full time employed column and in the somewhat competency-based program row. This was consistent with the distribution of respondents on each variable.

The Chi Square statistic was 7.724 with 4 degrees of freedom and a significance of .1022. The acceptable level of significance of .05 was not reached, therefore, the null hypothesis could not be rejected. There was no evidence of a relationship between employment rate and the degree to which a vocational stenographer program was competency-based. (See Table 7)

Hypothesis Two

H_2: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the degree of satisfaction graduates of those programs feel with their job.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the graduate's rating of job satisfaction.

The cross tabulation of the score on the competency-based index and the job satisfaction rating of the graduates addressed this hypothesis. Job satisfaction was divided into four categories which included: very satisfied, somewhat satisfied, not very satisfied, and not at all satisfied.

TABLE SEVEN

CROSS TABULATION OF PLACEMENT RATE AND
THE SCORE ON COMPETENCY-BASED INDEX
(N = 264)

Competency-Based Score Category	Placement Rate Full Time	Part-Time	Unemployed
Not Competency-Based (1-9)	30 (11.4%)	13 (4.9%)	19 (7.2%)
Somewhat Competency-Based (10-39)	57 (21.6%)	28 (10.6%)	51 (19.3%)
Very Competency-Based (40+)	32 (12.1%)	21 (8.0%)	13 (4.9%)

Chi Square Statistic 7.724 with 4 Degrees of Freedom
Significance = .1022
$p < .05$

The degree to which the program was competency-based was categorized into not competency-based, somewhat competency-based and very competency-based. Of the 181 graduates who reported either part-time or full time employment, three responses were missing. The missing responses were not included in the totals or percentages, therefore, the sample includes 178 responses.

The cell with the most responses was the cell representing employed graduates who were very satisfied with their jobs and who came from somewhat competency-based programs. There were 40 graduates or 22.5% of the 178 employed graduates in that group. The next largest group consisted of 32 respondents or 18.0% who were somewhat

satisfied with their jobs and were from somewhat competency-based programs. The other two cells which represented very satisfied employed graduates also received a high number of responses. Twenty-three (12.9%) were from very competency-based programs and 22 (12.4%) were from programs determined to not be competency-based.

The two smallest groups of respondents were not at all satisfied with their jobs. One (.6%) was from a program which was not determined to be competency-based and two, or 1.1% were from very competency-based programs. For a complete report of the contents of all the cells, refer to Table 8.

TABLE EIGHT

CROSS TABULATION OF JOB SATISFACTION RATING AND SCORE ON COMPETENCY-BASED INDEX (N = 178)

	Job Satisfaction Rating			
Competency-Based Score Category	Very Satisfied	Somewhat Satisfied	Not Very Satisfied	Not At All Satisfied
Not Competency-Based (1-9)	22 (12.4%)	17 (9.6%)	4 (2.2%)	1 (.6%)
Somewhat Competency-Based (10-39)	40 (22.5%)	32 (18.0%)	6 (3.4%)	4 (2.2%)
Very Competency-Based (40+)	23 (12.9%)	16 (9.0%)	11 (6.2%)	2 (1.1%)

Chi Square Statistic 6.888 with 6 Degrees of Freedom
Significance = .3313
$p < .05$

The distribution of the responses was similar to that found on Hypothesis One. The most responses were in the very satisfied column and in the somewhat competency-based program row. No cell received more than one-quarter of the responses.

The Chi Square statistic was 6.888 with 6 degrees of freedom and a significance of .3313. The acceptable level of significance of .05 was not reached, therefore, the null hypothesis could not be rejected. There was no evidence of a relationship between job satisfaction ratings and the degree of which the program from which the student graduated was competency-based. (See Table 8)

Hypothesis Three

H_3: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the salary of the graduate.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the salary received on a job by the graduates.

The Spearman Correlation Coefficient and the significance level when the Spearman Rank Order Correlation statistic was applied to the relationship of the score on the competency-based index to the salary of the employed graduate was used to test Hypothesis Three. Of the 264 follow-up survey returns, the response to the question asking for the amount of salary they received was blank on 125 returns, leaving 139 responses.

The Spearman Rank Order Correlation Coefficient was -.0325 at a significance level of .352. The correlation coefficient of -.0325 indicates that the cases were not linear because the coefficient was closer to .00 than to 1. The significance level was .05, therefore, the null hypothesis could not be rejected. There was no evidence to indicate that a relationship between the degree to which a program was competency-based and salary of the graduate existed. (See Table 9)

TABLE NINE

CORRELATION OF SALARY OF EMPLOYED GRADUATES AND SCORE ON COMPETENCY-BASED INDEX (N = 139)

Variable	Correlation	Significance
Salary Score on Competency-Based Index	-.0325	.352

$p < .5$

Summary

The purpose of this study was to determine if there was a relationship between competency-based education implementation and the following variables: 1) the employment status of graduates of secondary vocational stenographer programs; 2) a job satisfaction rating for the employed

graduates; and 3) the salary reported by employed graduates.

In the study, there were 264 1980 graduates who responded on the 1981 Michigan Follow-up Survey. These graduates represented the 17 secondary vocational stenographer programs in the study.

Using a significance level of .05, none of the statistics were found to be significant, therefore, none of the three hypotheses could be rejected. There was no evidence that the degree to which a program was competency-based relates to the placement, job satisfaction, or salary of the graduate.

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

Introduction

This study was an investigation into competency-based education as an instructional system and its contribution to the goal of vocational education, placement of the graduate on a job. Three aspects of placement were explored. They were full or part-time placement, job satisfaction rating, and salary. Since stenographers had the greatest job demand of all vocational programs, the secondary vocational stenographer programs in Michigan were selected as a target. Using a table of random numbers, a random sample of the vocational stenographer programs was selected.

In the early 1980's, Michigan's economy was experiencing a recession. That recession caused unemployment to be high. According to Department of Labor data, the vocational stenographer program provided graduates with more job openings than any other vocational program. For this reason, this study was limited to secondary vocational stenographer programs. Therefore, the effect of Michigan's economic situation on job placement was reduced to a minimum.

Two instruments were used to collect the data. The first was the 1981 Michigan Follow-up of 1980 graduates which collected the employment data on the graduates. These data were collected by local vocational education personnel under the direction of the Michigan Department of Education in April of 1981. The graduates queried were 1980 graduates of secondary vocational programs.

The second instrument was adapted by the researcher to measure the degree to which the programs from which the graduates came, were competency-based. The instrument was adapted from a device designed by Robert Roth to index the degree to which a teacher training program was competency-based. Roth developed the instrument from an extensive collection of definitions of competency-based education. The adaptations consisted of changing word references which were unique to teacher education to comparable terms in the secondary vocational program. Some items on Roth's index were excluded because they were items unique to teacher education. It was the judgment of the researcher that neither content nor context was changed due to this adaptation.

This instrument was mailed with a cover letter to 23 vocational administrators identified by their signature on the enrollment reports for the sample of stenographer programs. Seventeen surveys were returned for a 74 percent return. These measures were then scored according to the agreed upon procedure.

Research Hypotheses

The following research hypotheses were tested:

H_1: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the employment rate of the graduates.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the employment rate of the graduates.

H_2: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the degree of satisfaction graduates of those programs feel with their job.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the graduate's rating of job satisfaction.

H_3: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the salary of the graduate.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the salary received on a job by the graduates.

The null hypotheses were tested. The directional hypotheses were provided to indicate the direction this researcher expected the data to show.

The Findings

The employment related data was collected by local administrators under the direction of the Michigan Department of Education. The data used for this study were obtained from the follow-up data on the Department's computer. Michigan's laws related to the right of privacy of students did not allow for the inclusion of demographic data in connection to the follow-up data. For this reason, the findings did not include data such as the sex, age, residence, race, or any other demographic data.

Employment Status

Of the 264 graduate returns, 119, or 45.1 percent reported working 36 or more hours per week or full time. Sixty-two, or 23.5 percent were working 35 or less hours per week or part-time, and 83, or 31.4 percent were unemployed. Among the unemployed were those graduates who were not available for work, including those who were furthering their schooling. When full and part-time employment were combined, the employment rate of 68.6 percent was attained. This, too, was consistent with larger numbers of job openings and confirmed that economic conditions in Michigan were, in fact, minimized as an intervening variable.

Job Satisfaction

The reasons persons were satisfied with their jobs involved many factors which may vary from day to day and week to week. The purpose for including job satisfaction as a variable was to see if in very general terms, students who graduated from competency-based programs were more satisfied with their job than students who graduated from programs not competency-based. The assumption was that competency-based education in its efforts to identify what was to be learned and what was accomplished would provide graduates more realistic expections. Job satisfaction, then, was a measure of consistency between what was expected and what actually existed.

The job satisfaction variable was collected as part of the 1981 follow-up efforts. Eighty-six, or 32.6 percent of the 264 graduates did not respond to this item on the survey form. Most of these blanks could be accounted for by the 83 unemployed graduates. If the graduate was unemployed, there would have been no reason to check their job satisfaction. In fact, they were instructed not to respond to this question. The remaining three responses were unaccounted for. The graduates filling out the form either failed to see the question, or chose not to respond.

The graduates were generally quite satisfied with their jobs. The response choices were: 1) very satisfied; 2) somewhat satisfied; 3) not very satisfied; and 4) not at all satisfied. Eighty-five or 32.2 percent were very

satisfied and 65 or 24.6 percent were somewhat satisfied. These two categories combined make up 84.2 percent of those who responded to the question, and represents most of the graduates who were working. Only seven or 2.7 percent were not at all satisfied with their jobs. The remaining 21 graduates or 8 percent, were not very satisfied.

Salary Rate

The salary rate of the graduate was seen as a measure of the level at which the graduate entered the work market. A higher income would indicate that either the graduate entered the job at a higher level of skill or had received promotions at a faster rate than those graduates with lower salaries.

There was a wide range of salaries, from $2.50 per hour to a high of $8.00. There were two salary levels that predominated. They were the minimum wage rate of $3.35 with 30 graduates reporting that they were receiving this amount. The other was 14 graduates reporting $4.00 per hour. The average salary was $4.15.

One hundred twenty-five graduates did not respond to this item on the Follow-up Survey. Of those, 83 were unemployed and would not be expected to report a salary. Four more, who were included in the full time workers, were reported to be in the military. The researcher suggests they would not consider their salary on a per hour basis, so found this question too difficult to respond to. Some of the respondents might not have known their exact salary

rate and did not bother to find it out. Salary rate could have been viewed by some respondents as too personal and they purposely did not respond. Other reasons could include not seeing the question, responding in an incorrect manner or in an incorrect place on the form. In any case, 125 did not respond.

Number of Graduate Returns from Each Program in the Sample

It was proposed that there would be an average of 22 graduates per program. Given an average return rate of 79.5 percent of the Follow-up Survey form, an average of 17 returns from each program would be expected. The actual average was 16, so the number of graduate returns per program was consistent with the returns for the entire survey. This sample was not unique.

The range of the number of returns was large. It spans from two returns from Grand Rapids Union to 47 from Warren Consolidated Cousino. The low number of two returns could be explained by the fact that in 1980, this particular program had only been in operation for one year. Ordinarily, the stenographer program is a two-year program, so there would have been very few graduates and they would have been only partially prepared by the program. The large number of 47 was explained by the existence of more than one section of the same program.

Score on Competency-Based Rating Index

As expected, the programs were at various stages of development. Five of the 17 programs included were not

considered to be competency-based at all. There were three key items that, according to Roth, needed to be in place to be competency-based. These items were unanimously included in every definition of competency-based education. These five programs did not indicate that the three existed so were not considered competency-based, regardless of how many other items were marked "yes".

There were no programs which scored between two and 30. This seemed to indicate that most programs could not be only slightly competency-based. This would be consistent with the fact that competency-based education was an instructional system and not an uncoordinated series of techniques. Eight programs scored in the 30's and were considered somewhat competency-based, and four programs scored in the 40's. These four were considered very competency-based.

Perhaps another reason for the scores to group in the 30's and 40's came from the limitation that the raters, vocational administrators, might have had a tendency to overrate the program because of the position of the researcher in the Department of Education. That position was not identified in the collection communication. However, if the respondent on the competency-based index recognized the researcher, and recognized the efforts of the Michigan Department of Education to implement competency-based education in every vocational program, there might have been a tendency to overrate on this scale.

The purpose of the index, as Roth indicated, was for comparative purposes. So, for comparative purpose, a program which scored a 42 was compared to a program which scored 32 and could be said to have been more competency-based. The index and the resultant scores were appropriate for use in this study, however, caution should be taken for any other use of the score derived from the index.

Number of Returns from Each Category of Degree of Competency-Based Implementation

A review of the number of graduates represented by the three categories of competency-based implementation (not, somewhat, and very) shows 62 graduates or 23.5 percent from those programs not considered competency-based, 136 graduates or 51.5 percent from those programs considered somewhat competency-based and 66 graduates or 25.5 percent from programs very competency-based. These numbers portrayed a somewhat normal distribution, indicated that this particular sample of returns was not unique, and supported the assumption that programs would be at various levels of implementation of competency-based education systems.

Research Hypotheses

H_1: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the employment rate of the graduates.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the employment rate of the graduates.

The researcher's findings indicated that there was no evidence of a significant relationship between the placement rate and the degree to which the program from which the graduates came was competency-based. The null hypothesis could not be rejected.

H_2: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the degree of satisfaction graduates of those programs feel with their job.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the graduate's rating of job satisfaction.

Findings for Hypothesis Number Two indicated that there was no significant relationship between the job satisfaction rating of program graduates and the degree to which that program was competency-based. The null hypothesis could not be rejected.

H_3: There is a significant relationship between the degree to which a secondary vocational stenographer program has implemented a competency-based system and the salary of the graduate.

H_0: There is no significant relationship between the degree to which a secondary vocational stenographer program is competency-based and the salary received on a job by the graduates.

There was no evidence in these data of a significant relationship between the employed graduate's salary and the degree to which the program they graduated from was competency-based. The null hypothesis could not be rejected.

Thus, on the three measures investigated in this study, job placement, job satisfaction, and employee salary,

there was no evidence of a significant relationship with the degree to which the education those employees received was competency-based.

Conclusions

For secondary vocational stenographer programs in Michigan, competency-based education did not significantly contribute to improving the placement of graduates on jobs. This study examined secondary vocational stenographer programs as representative of all vocational programs. Therefore, based on these data, a competency-based educational system did not contribute to vocational education graduates being more likely to be employed than their counterparts from vocational programs not competency-based.

For secondary vocational stenograher programs in Michigan, competency-based education did not significantly contribute to the job satisfaction of the graduate/employee. This study examined secondary vocational stenographer programs as representative of all vocational programs. Therefore, based on these data, a competency-based educational system did not contribute to vocational education graduates being more satisfied with their jobs than their counterparts from vocational programs not competency-based.

For secondary vocational stenographer programs in Michigan, competency-based education did not significantly contribute to the salary received by the graduate/employee. This study examined secondary vocational stenographer programs as representative of all vocational programs.

Therefore, based on these data, a competency-based educational system did not contribute to vocational education graduates receiving higher salaries than their counterparts from vocational programs not competency-based.

Based on these findings, vocational teachers, school administrators, and state and national administrators of educational systems need to re-examine the purposes for introducing or continuing emphasis on competency-based education. If as assumed for this study, job placement, salary, and job satisfaction are measures of success of graduates of vocational education, educational leaders also ought to avoid claiming that competency-based educational systems produce graduates more likely to be employed.

This study also suggested that educational leaders should begin to explore other alternatives for the delivery of vocational education. The goal of vocational education has been established to be successful job placement. Based on these findings competency-based education did not appear to contribute any more than traditional education systems to that goal. Therefore, the leaders of vocational education, as well as vocational education teachers, need to begin to explore other educational systems which may produce better placement results. However, caution should be taken to avoid discarding competency-based education because it did not seem to contribute to graduate placement. There may be other reasons for introducing competency-based

education systems to vocational education. Those reasons might include improved accountability, improved communication to the various publics about the purpose and function of vocational education, as well as teacher and student motivation.

Recommendations for Further Research

The findings of this research study and the resulting conclusions raise questions for further research. The recommendations for further research are:

1. The same hypotheses could be tested using different measures of the competency-based system. Perhaps actual observations, or interviews with the teachers of the programs would provide a more sensitive measure of the degree to which a program is competency-based.

2. The same measure of the competency-based system could be compared with the results of the employer follow-up survey. Using a sampling technique which would assure sufficient employer responses could address the question of whether employers rated graduates higher if they were from fully competency-based programs than if those graduates were from programs not determined to be competency-based.

3. A refinement, or more extensive measure of job satisfaction, could be developed and may show a contribution by the competency-based educational system to job satisfaction.

4. Replication of this study should be undertaken in other parts of the country. Even though the researcher attempted to diminish the effect of a depressed economy in Michigan, results may be quite different in other areas. The same study, conducted in other depressed economies, such as Ohio and Illinois, as well as in the sun belt growth economies of Georgia, Arizona and Texas, would provide a contrast and help to determine the impact of the economy on placement rates and salary.

5. Several other studies surrounding other aspects of a vocational education program, such as teacher training, teacher salary, equipment, reimbursement levels, or pre-vocational instruction, could be tested to determine what factors do, if any, contribute to higher placement rates, job satisfaction, or salary of the graduate/employee.

Reflections

For many who have put forth great efforts toward establishing competency-based educational systems in all vocational education programs in Michigan and elsewhere, the findings of this study will be discouraging. Discouraging in the sense that out of a sample of 23 secondary vocational stenographer programs, five were determined to not be competency-based. The efforts have not been totally effective. Equally discouraging is the data that indicate that it does not contribute to placement, job satisfaction, or employee salary.

This study showed that competency-based education, at least for secondary vocational stenograher programs in Michigan, did not contribute to placement, job satisfaction, or salary. At the very least, leaders in vocational education should be cautioned about making claims that competency-based education will improve placement potential in stenographer programs. Based on these findings, caution should also be exercised when making claims about competency-based education and improved placement rates in all of vocational education until further research is done.

The questions which remain to be answered include:

1. Are the findings of this study true for other parts of the country where different economic conditions prevail?

2. Does competency-based education contribute other values to the education of students aside from job placement factors, such as student motivation or community support of education programs?

3. Are there more sensitive measures of job satisfaction?

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APPENDICES

APPENDIX A

1981 FOLLOW-UP SURVEY

VE 4045-A
12/80

Michigan Department of Education

102

SCHOOL DISTRICT LABEL

FOLLOW-UP SURVEY OF FORMER STUDENTS

We are writing you, as a former high school student, to ask your help in improving some of the courses you took in school. By answering a few questions about what you are doing now and giving us your opinions, you can help us plan to make the courses better for students in the future.

The courses we are writing you about are those that you took in "vocational education" in order to get ready for a job after high school. The courses you took might have been in auto mechanics, office work, marketing and selling, agricultural production, welding and cutting, data processing, child care, small engine repair, electronics, food management, cosmetology, or one of many others possible.

Please take a few minutes to answer the questions and mail back your answers and opinions. We're counting on your help.

Thank you very much.

Please answer the questions by putting an "x" in the box next to the answer of YOUR CHOICE or by filling in the blank.

1. Are you now attending a school or college, or enrolled in a training program, or working as an apprentice?
(Check ONLY ONE.)

Yes 15 [1] No 15 [2]

If you answered "no", please turn the page and go to Question 4.

If you answered "yes", please go on to Question 2 below.

2. In your major area of study (or training), how much do you use the vocational training you received in your high school or area vocational education center?
(Check ONLY ONE.)

16 [1] A lot
[2] Some
[3] Hardly any
[4] None

3. Check the type of school or program you are now attending.
(Check ONLY ONE.)

17 [1] High school
[2] 1-year college vocational-technical program
[3] 2-year college vocational-technical program
[4] 2-year college liberal arts program
[5] 4-year college or university
[6] Business or trade school
[7] Apprentice Program
[8] Other _____

Please go to Question 4 on the next page.

4. If you are working for pay, about how many HOURS PER WEEK do you work? Write the number of hours per week in the box.

18 [ ]

If you are not working for pay, please go to Question 10 on the next page.

If you are working for pay, please go to Question 5 below.

5. On your present job, how much do you use the vocational training you received in your high school or area vocational education center? (Check ONLY ONE.)

20 [1] A lot
[2] Some
[3] Hardly any
[4] None

6. Overall, how satisfied are you with your present job? (Check ONLY ONE.)

21 [1] Very satisfied
[2] Somewhat satisfied
[3] Not very satisfied
[4] Not at all satisfied

7. On my present job I am paid about

22 $ _____ per hour.

8.

Please fill in the name of the company where you work			
Company's Street Address			
City	State	Zip Code	
Please fill in the name of your job			
Please list the three most important things you do on your job	26	LEAVE BLANK	
1.			
2.	31		
3.			
Please fill in the name of your job supervisor			

9. The high school job training that you and other former students received usually gets good ratings when we ask supervisors. We may need to ask your supervisor about the training you received in high school. Is that OK with you?

Yes 36 [1] Please fill in your supervisor's work phone number (Area Code) _____

No [2].

Please go on to Question 10.

10. Are you looking for a job? (Check ONLY ONE.)

Yes 37 [1] No [2]

11. Are you in the military service? (Check ONLY ONE.)

Yes 38 [1] No [2]

12. Are you a homemaker? (Check ONLY ONE.)

Yes 39 [1] No [2]

13. What is your sex? 40 [1] Male
[2] Female

14. Please identify yourself as a member of one of the groups of people listed below. (Check ONLY ONE.)

41 [1] American Indian or Alaskan Native
[2] Asian or Pacific Islander
[3] Black, not of Hispanic Origin
[4] Hispanic
[5] White, not of Hispanic Origin

Please go to Question 15.

15. COMMENTS

Please make any comments and/or suggestions you believe are needed to improve some of the courses you took or services you received while in high school. Also, add any general comments or suggestions you have about your school experience.

(SCHOOL USE ONLY)

1. Yes 42 [1] C 43 [1] or L 43 [2]
No 42 [3]

2. Yes 44 [1] No 44 [2] 3. Co-op Yes 45 [1] No 45 [2]

4. Yes 46 [1] H 47 [1] or LEP 48 [1] or D 49 [1]
No [2]

5. Yes 50 [1] H 51 [1] or LEP 51 [2] or D 51 [3]
No 50 [2]

6. OE 52 [ ][ ].[ ][ ][ ][ ] 7. PSN 58 [ ][ ][ ][ ][ ]

Name of Program _____

8. If an AREA CENTER or SHARED TIME program, report respondent's home district identification. 63 CEPD [ ] CODE [ ][ ][ ][ ]

9. Telephone 70 [1] Mail 70 [2]

APPENDIX B

INSTRUCTIONS FOR CONDUCTING THE 1981 FOLLOW-UP SURVEY

INSTRUCTIONS FOR CONDUCTING THE 1980 FOLLOW-UP SURVEY

VOCATIONAL-TECHNICAL EDUCATION SERVICE

MICHIGAN DEPARTMENT OF EDUCATION

JANUARY, 1981

THE 1980 VOCATIONAL EDUCATION FOLLOW-UP SURVEY*

Introduction

The purpose of the 1980 Follow-Up Survey is to gather information needed to help people make decisions about vocational education programs.

Program fiscal agents (local districts) that receive Federal or State funds for conducting programs are required to report follow-up data about program completers and leavers, including information needed for the State to do the follow-up with the employers of a sample of former students. In turn, we in the State office are required to report the results of the surveys to the National Center for Education Statistics for inclusion in reports to the U.S. Department of Education and Congress.

The follow-up of completers and leavers of 1980 continues the series of annual surveys begun in 1973. This year, as in all previous years, we have considered recommendations from an Ad Hoc Follow-up Advisory Committee,** professionals in local districts, and technical advisors in making changes in both the survey form and process.

This year, we have made four changes in the study:

1. You, as representative of a local program fiscal agency, will need to survey ALL completers and ALL leavers of reimbursed wage-earning programs that your agency reported last July on Form VE-4301, "Secondary Vocational Enrollment and Termination Report for School Year Ending June 30, 1980". (Please remember that you are not required to survey completers and leavers of Consumer and Homemaking Programs, those with OE Code 09.0100. You may follow them up as part of the optional non-vocational student survey.)

2. We will base your survey response rates on the number of completers and leavers your school reported on Form VE-4301 last July. That means we will calculate the rate, for each Program Serial Number (PSN) on the VE-4301, by dividing the number of your completers and leavers who respond to the survey by the number reported on the VE-4301.

3. You will need to report whether a former student fits one or more of the definitions of handicapped, disadvantaged, or limited English proficiency and if so, whether the student received reimbursed services as part of an approved state special needs project.

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* See Appendix A for definition of terms
** See Appendix I for members of the committee

4. A total of seven questions for the former students has been removed from the questionnaire.

5. Students will be asked to supply their supervisor's name and phone number on the student follow-up form to aid in completing the employer follow-up. If a student omits this information and the LEA can supply it, please do so.

While we have no choice about following up completers and leavers of reimbursed programs, you have the option, as in previous years, of also surveying non-vocational graduates. You may use added cost funds to cover the expense of surveying the former VOCATIONAL student.

In conducting the survey, we recommend that you make administrators, counselors, teachers, placement coordinators, students, and the community aware that:

1. You are conducting the survey; and

2. The school and community can benefit from using the results.

And, finally, please remember that fiscal agencies, not "home schools" are responsible for actually collecting data from completers and leavers of their programs. That means, in no case, should a school follow-up a former vocational student who was not counted on its form VE-4301.

In summary, the data gathered from the follow-up survey provides educators at the Federal, State, and Local levels with the information needed to make decisions about students' needs and what schools can do to address those needs.

Services in Support of Your Survey

We provide a Survey Support Center during the entire time of the survey to assist you in conducting a successful survey and to handle some of the mechanics for us. During the survey, the Center will:

1. Supply additional needed materials;

2. Answer questions related to the survey; and

3. Offer suggestions for solving problems you may have in conducting your survey.

In addition, we provide a statewide series of workshops in the Fall for local staffs who will actually be conducting the survey and the instructions and suggestions on the following pages. They are:

1. A suggested schedule for conducting the survey;

2. A definition of terms (Appendix A);

3. A sample cover letter to mail with questionnaires (Appendix B);

4. A worksheet for coding survey forms and keeping control of the survey as you conduct it (Appendix C);

5. Tentative instructions for selecting a sample of former students whose employers will be followed up, including a tentative form for listing them (Appendix D);

6. Some recommendations for publicizing the survey to help to improve response (Appendix E);

7. A sample cover letter to mail to those who do not respond to the first mailing (Appendix F);

8. An explanation of the information needed in the "school use" part of the questionnaire (Appendix G);

9. A sample of the transmittal sheet used to send the questionnaire and some additional information to the Survey Support Center (Appendix H); and

10. The membership of the Ad Hoc Advisory Committee (Appendix I).

Suggested Schedule

The chart below depicts the steps you can use in planning and conducting the student and employer follow-up. An explanation of each step appears on succeeding pages.

	Dates					
	1980		1981			
	Nov.	Feb.	Mar.	Apr.	May	Sept.
1. Attend Inservice Program	4 - 21					
2. Gather mailing and "school use" information:		1-27				
--student name --address and/or phone number --O.E. Code --PSN --Program name --Graduate --Completer or leaver --Handicapped, LEP, disadvantaged --Participation in special needs project; if so, handicapped, LEP, or disadvantaged	You need not wait until the dates shown to do Steps 1-5. They may be done as convenient, so long as they are completed by February 27.					

	Dates 1980 Nov.	Feb.	1981 Mar.	Apr.	May	Sept.
3. Write and duplicate cover letter		1 - 27				
4. Address envelopes or get mailing labels		1 - 27				
5. Create coding list		1 - 27				
6. Choose potential employer sample		27	- 6			
7. Code questionnaires		27	- - 15			
8. Run P.R. campaign			2-13			
9. Mail surveys or begin phone calls			16	- 30		
10. Complete returned forms or phoned information			16	- 30		
11. Follow-up non-respondents by phone or mail			26	- 30		
12. Complete information from those responding to second/third contact (same as step 10)				1-30		
13. Mail forms and employer log sheets to CEPD Specialist					8	
14. CEPD Specialist sends material to Center					15	
15. LEAs receive results						18

Steps

1. Attend In-Service Program, November 4-21

   MDE staff presented nine regional inservice programs to train people to do the student and employer follow-ups at both the CEPD and district levels. We asked for the persons who actually do the follow-up work to attend.

2. Gather Information for Mailing, February 1-17

For each completer and leaver reported by the fiscal agent on Form VE-4301, "Secondary Vocational Enrollment and Termination Report For School Year Ending June 30, 1980," you will need to assemble the following information: (If your district has a Unit Student Record for each completer or leaver, you will need only to update the mailing address and/or phone number.)

- -- Student name
- -- Address
- -- Phone number
- -- O.E. Code reported on VE-4301
- -- PSN (Program Serial Number)
- -- Program name
- -- Graduate
- -- Completer or leaver
- -- Handicapped, LEP, disadvantaged (May be all three)
- -- Participant in state special needs project
- -- Participant in reimbursed co-op

If you plan to follow up your non-vocational graduates, you will need:

- -- Name
- -- Address/Phone Number

Note: Steps 3 through 6 may be accomplished in the sequence you determine is right for your follow-up system.

3. Write and Duplicate Cover Letter, February 1-27

If you plan to do the survey by mail, you may wish to enclose a cover letter. A sample letter is included in Appendix B.

4. Address Envelopes or Request Mailing Labels for Mailed Survey, February 1-27

If your district's records are on computer, you may be able to order mailing labels from records stored in the computer.

5. Create a Coding Record, February 1-27

In order to control your survey, you need to create a system to determine who received a survey form in the mail (or was called) and who has responded to the survey either by phone or mail. In addition, this system should also provide a means for the fiscal agency to know what State Identification Number was affixed to the form. The coding system serves two major purposes:

- -- You at the LEA know who has responded to the survey.

- -- You can easily check records when necessary. You may need to check processing of the forms if you find either student surveys or employer log sheets are incorrectly filled out. A discussion of coding with an example is shown in Appendix C.

6. Choose Potential Employer Sample, February 27-March 6

At this point in the student follow-up process, you should select the sample of students whose employers are potentially in the employer follow-up study. The word potentially is used here because from this initial sample we will include only the employers of students who respond to the survey and say they are employed in a related occupation.

An outside contractor will complete the actual survey. However, before the contractor can do the study the local districts must supply accurate information about the students and their employers who are to be surveyed. See Appendix D for detailed steps.

7. Code Survey Forms, February 27-March 5

Using the system you developed in Step 5, code the student survey forms so that you will know who each form belongs to as it is returned through the mail or as the phone contact is completed.

8. Run P.R. Campaign - (Optional)

Some feel that you can use publicity in your community about the survey to increase the response rate. You can use many types of media for this purpose: (1) newsletters, (2) newspapers, (3) radio, (4) television, etc. Further information is shown in Appendix E.

9. Mail Surveys or Make Phone Calls, March 16-April 30

The mailing of forms and/or phoning should begin on March 16 and be completed by April 30. For students who were selected as "potentials" in the employer follow-up sample, follow steps 4 through 7 in Appendix D.

10. Complete Returned Forms or Phoned Information

As surveys are completed either by phone or mail, the following steps should be completed:

-- Affix a State I.D. Label to each completed survey. (The label must show the name of the fiscal agent who received money for the student's training, NOT his/her home school if it is different.)

-- Log in the returns on your coding sheet.

-- Complete the "School Use Only" data section. See Appendix C for the questions to be answered about each student.

11. Follow-Up Non-Respondents, April 10-24

You will need to develop a strategy for locating former students who do not respond to your initial attempt to reach them by either phone or mail. Second mailings of the questionnaire and evening phone contacts are two methods used by districts. See Appendix F for a sample.

12. Complete Information from 2nd/3rd Contacts

This process is the same as for Step 10 above.

13. Mail or Deliver Survey Forms and Employer Log Sheets to CEPD Specialist, May 8

All completed survey forms and Employer Log Sheets must be at your CEPD Specialist's office by May 8. Before packaging your surveys for the CEPD, please do the following:

a) Check each survey form to be certain that it has the fiscal agent's label attached to the front of the survey form.

b) Be certain that the "School Use Only" section is complete.

c) If you wish to keep the "Comments" section, tear it off at the perforation.

d) Separate the survey forms into three stacks:

1) All vocational completers
2) All vocational leavers
3) All non-vocational graduates

Place stacks in the above order (1 on top) separated by a sheet of paper between each stack specifying the contents of the stack.

e) Place two completed copies of the transmittal sheet (Appendix H) (VE-4045-B) on top of stack.

f) Place extra labels on top of transmittal sheets.

g) Secure stack by tying with string.

h) Return to CEPD contact person by May 8.

14. CEPD Specialist Sends Material to Center

All completed survey forms and employer log sheets must be at the Survey Support Center in Flint by May 15.

15. LEAs Receive Results

Your district will receive printouts of data collected from your former students and a narrative for possible use with your school board, planning committees, etc.

HELP IS AVAILABLE

If you have any questions regarding the survey, please call either the Survey Support Center in Flint, or the Vocational-Technical Education Service, Michigan Department of Education. Phone numbers appear in Appendix A.

Appendix A

Definitions of Some Terms Used in Instruction

1. Completer — A completer is any student who was enrolled in a reimbursed secondary vocational program and who was reported as a completer on the VE-4301 form entitled "Secondary Vocational Enrollment and Termination Report for School Year Ending June 30, 1980."

2. Fiscal Agent — A fiscal agent is a local district or ISD (in the case of skill centers) that received reimbursement from the State for the vocational training of the student being followed up.

3. Leaver — A leaver is any student who was enrolled in a reimbursed secondary vocational program and who was reported as a leaver on the VE-4301 form entitled "Secondary Vocational Enrollment and Termination Report for School Year Ending June 30, 1980."

4. MDE — Michigan Department of Education

   Management Information and Finance Unit
   Post Office Box 30009
   Lansing, Michigan 48909
   Telephone number: (517) 373-0600

5. Non-Vocational Education Graduate — Any secondary graduate who does not meet the specifications for a vocational education completer or leaver. Students who were enrolled in 09.0100 Home Economics courses should be included in this category.

6. PSN — Program Serial Number - A number that uniquely identifies, for data processing purposes, an existing approved instructional program with a specific fiscal agency, content, instructional location, instructional time, and annual starting month. The five-digit PSN for each program appears on Form 4301 on the same line as the O.E. Code and program name.

   Example:

O.E. Code	Program Name	PSN
07.0409	Dental Office Assistant	08021

7. SSC — Survey Support Center

   Genesee Intermediate School District
   2413 West Maple Avenue
   Flint, Michigan 48507
   Telephone number: (313) 767-4310

8.	Vocational Education Form 4301 "Secondary Vocational Enrollment and Termination Report for School Year Ending June 30, 1980"	This report was submitted to Michigan Department of Education and showed the final enrollment in each program run by a district. The report lists completers and leavers for each O.E. Code and also a unique PSN (Program Serial Number) for each program.

Appendix B

Sample Cover Letter

Note: Please send a cover letter on your school's letterhead explaining the survey to each person together with the survey form. The following sample cover letters may be modified to suit your local needs. It is important to keep your cover letters warm in tone and as brief as possible.

Professional data collectors feel that the inclusion of a personal communication of this type will increase the return rate. They also feel that identification of the survey with state and federal agencies, as well as an institution familiar to the person receiving the survey, will increase the return rate. In addition, the cover letter gives you an opportunity to explain to the person why the information is being sought and how it can benefit students.

(Date)

Dear Survey Participant:

It's your chance to help L.E.A. plan its *Vocational education programs for the future. By sharing with us on the enclosed form what you are doing now and how your school's *Vocational programs met your needs, we are able to get a clearer picture of what our program(s) did for you and where you think improvements can be made. We are cooperating with both the Michigan Department of Education and the United States Department of Education in this effort.

Your answers and comments will help your school improve programs and services for your brothers, sisters, and friends who are or will be attending L.E.A. in the future.

Please fill out the enclosed survey form and return it in the enclosed stamped, self-addressed envelope by _____. We are counting on your contribution.

Thank you and best wishes.

Sincerely,

(Name of Local School Official)

*It is recommended that two different cover letters be used - one for vocational students and one for non-vocational students. For non-vocational students, you can simply remove the word vocational.

The 1980 Follow-up survey form (VE-4045-A) does not ask respondents to supply their name, address, and telephone number on the form. This information is not collected based on recommendations that it will:

1. Increase the response rate.
2. Respect the privacy of the respondent in using the information at other than the local level.
3. Eliminate the need at the local level for obliterating such information prior to sending the forms to the Michigan Department of Education.

The local contact person needs to be able to identify respondents who return survey forms in order to maintain an accurate list of respondents and non-respondents. Therefore, we recommend that local schools devise a coding system that will enable them to identify persons who return forms. Do not use the school district label with its individual number for this purpose. This label is to be attached to a form only after it has been returned by the respondent.

A simple system for coding is to assign a number to each name on your follow-up list and then to write this number on the lower right hand corner of the form prior to mailing. As each form is returned, this number can be checked against the corresponding number on your coding sheet to enable identification of respondents and non-respondents.

If you need additional help in coding, please contact your CEPD specialist or the Michigan Department of Education.

Example

Fiscal Agent Coding Sheet

School Student Number	O.E. Code (Optional)	PSN (Optional)	Student Name	Date Survey Sent	Date Survey Returned	State I.D. Number
1			Jan Johnson			
2			Kevin Barnes			
3			Erica Burns			
4			John Leach			
5			Terry Church			

Appendix D

INSTRUCTIONS

The Employer Follow-Up Survey

This year, for the second time, we are required to do the follow-up study of a sample of employers of vocational completers/leavers who are employed in related occupations. An outside contractor will do the actual survey. However, in order for the contractor to do the study, you need to select the sample as specified.

The procedure for selecting the sample at the LEA was designed by a consultant at the Institute for Social Research at the University of Michigan. He attempted to develop a procedure to use by the LEA that will make this process as simple as possible and yet scientifically correct. We are presenting it here in steps for both LEA's who mail the survey form to each person in the student follow-up and for LEA's who use the telephone to conduct the survey.

In the regular follow-up, you will follow up all completers and leavers. For purposes of selecting the employer follow-up sample, all completers and leavers need to be placed into the five OE Code categories as shown on page 18. Follow these steps to select your samples in each of the categories.

Step 1, Category 1. Group all student names together from the 04.0800 and 17.0302 OE Codes. Include both completers and leavers. You do not have to make a special list to do this. You may use:

1. Class lists;

2. Individual Student Record Cards;

3. Survey forms with the names already inserted for mailing purposes; and

4. Computer listings.

Step 2, Category 1. This category is large enough so that only one student out of every ten needs to be in the sample. The random start number for this category is "1".

Starting with the first name in the group, place a red (✓) on the survey form, on the list, or on the student's card. Starting with the second name in the stack, count down ten names and place a red (✓) on the tenth name, and so on through all names that appear in the 04.0800 and 17.0302 OE Codes.

Follow steps 1 and 2 for categories 2, 3, and 4. Use the random start numbers for each category as shown on page 18. For category 2, you will be selecting every fifth student beginning with the third student in the stack, etc.

Step 3. For students in O.E. Codes not included in categories 1, 2, 3, or 4, place a red (✓) on each survey form. (Every student in Category 5 should have a red (✓) and is a potential candidate for the Employer Survey.)

Step 4. For LEA's Who Mail the Student Follow-Up Survey.*

A. Mail the survey form as usual. Make sure if the student was selected for the Employer Survey that his/her form has a red (✓) on it.

B. As the surveys are returned, look at the surveys with (✓) to see if: (1) He/she is working, and (2) he/she has answered "a lot" or "some" to Question 5. If both these conditions are met, put the form in a separate pile. These people are now "in" the Employer Follow-Up. (All forms not meeting these conditions simply fall back into the regular student follow-up.)

C. Complete one line of the employer follow-up survey log-in sheet (Form 4045C) for each of the students who fell into the employer sample, is working and answered "a lot" or "some" to Question 5. (On your present job, how much do you use the vocational training you received in your high school or area vocational education center?) Be sure that you use the student I.D. Number from the follow-up label supplied by the Michigan Department of Education. (Example in Step 5.) Do not use the student's O.E. Code.

   If the student has not checked "yes" or "no" on the permission question, and is in the employer follow-up, you will need to contact him/her to obtain permission for a contractor to talk with his/her employer about their vocational training. If the student has responded to that question, simply check "yes" or "no" on the log sheet.

Step 5. For LEA's Who Do The Follow-Up by Phone.

A. Phone former students in the usual way. If the student has a red (✓) and you discover in the conversation that he/she:

   1. Is employed full or part time, and

   2. Answers "a lot" or "some" to Question 2,

   Proceed to ask the student:

---

* You may want to consider surveying by phone all students with a red (✓). This way you can avoid having to contact the student again. If you find he/she is employed and answers "a lot" or "some" to the relatedness question, you can immediately ask for permission to contact the employer and get the supervisor's name.

1. Will he/she give permission for an outside agency to contact his/her employer to discover what the employer's opinion is of the vocational training the student received? (Parents or others may not give permission - it must be the actual former student.)

2. What is his/her supervisor's name? (Please try to get an accurate spelling.)

B. Enter all appropriate information on the Employer Follow-Up Log. (See Step 5 for sample of where CEPD, School, and Student I.D. Numbers are located on the Student Follow-Up Survey label.)

C. If the student does not meet the two conditions of:

1. Employed part or full time

2. Answers "a lot" or "some" to Question 5, simply complete the questionnaire and mail to your CEPD Specialist with the regular student follow-up forms.

Step 6. Complete the Log-In Sheet.

1. Check to be certain that:

a. CEPD number is correct.

b. LEA I.D. Number is correct (5-digit number).

c. Each student has a 6-digit I.D. Number that corresponds to the number on his/her survey label.

d. Student's name, company's name and address, and supervisor's name are complete, legible, and spelled correctly.

e. The former student's permission response to contact the employer is checked "yes" or "no". Remember, only the actual student may give permission.

XX - XXXXX CEPD # LEA I.D. #	XXXXXX Student I.D. #
XXXXXXXXXXXXXX XXXXXXXXXX SCHOOL DISTRICT NAME/CENTER TITLE	

Step 7. Send two copies of completed log to: Your CEPD Specialist

Keep: One copy for your files.

Note: If you can go an extra mile, you might consider calling or talking with those employers who will be surveyed. This could be a real P.R. opportunity for future placements.

Step 8. After Log is Completed.

After Log Sheet is completed, simply include the student survey forms in with all survey forms to be delivered to your CEPD. No further information is needed from them for the employer follow-up.

Sampling Rate Categories for Employer Follow-Up Survey

Category	Sampling Rate	Random Start Number	Instructional Program O.E. Code	Name
1	1/10	1	04.0800	General Merchandise
			17.0302	Auto Mechanics
2	1/5	3	01.0100	Production Agriculture
			09.0203	Food Mgt. Production & Service
			14.0703	Stenographers
			14.0797	Medical Secretary
			14.0798	Legal Secretary
			14.0901	Clerk-Typist
			14.9700	Clerical Lab
			14.9800	Steno/Clerical Lab
			17.1000	Construction & Maint. In-School
			17.1001	Carpentry
			17.1098	Construction & Maint. On-Site

Category	Sampling Rate	Random Start Number	Instructional Program O.E. Code	Name
3	1/3	1	07.0303	Nursing Assistant Aide
			07.9802	Health Occupations Cluster
			09.0201	Child Care & Guidance Service
			14.0200	Business Data Processing
			14.0201	Computer Operations
			17.1300	Drafting Occupations
			17.1398	Eng/Architectural Drafting
			17.1500	Electronics Occupations
			17.1501	Communications
			17.1503	Industrial Electronics
			17.1598	Radio & TV Broadcasting
			17.1900	Graphic Arts Occupations
			17.1903	Lith Photo Platemaking
			17.2302	Machine Shop
			17.2306	Welding and Cutting
			17.2606	Cosmetology
4	1/2	2	01.0300	Agriculture Mechanics
			01.0301	Ag Power and Machinery
			01.0500	Ornamental Horticulture
			01.0502	Floriculture
			01.0503	Greenhouse Operation & Mgt.
			01.0504	Landscaping
			14.0102	Bookkeepers
			14.0104	Machine Operators
			14.0105	Tellers
			17.0301	Body and Fender
			17.3100	Small Engine Repair
5	1/1	---	*All remaining programs (O.E. Codes) - These programs are too small to permit sampling. All students who respond to the survey who are employed either full or part-time and who check "a lot" or "some" as the answer to Question 5 will be included in the Employer Follow-Up. Therefore, put a red (✓) on each student's Follow-Up Survey Form, card, (etc.) before the survey begins as each person is potentially eligible for the Employer Follow-Up.	

Appendix E

Good Public Relations Can Increase Your Response Rate

Well done news items used by your newspapers and radio and TV stations can increase your response rate by "selling" the importance of the survey and its benefit to your school. They can also help to make the point in the community that your school is concerned about its former students.

If you use the sample news release, please use it only as an example, changing it to fit the preferences of your local news people. Adapting it to their preferences is a good idea because newspapers and radio and television stations often are competing for news. That means their staffs will be embarrassed if they find that they have used a news release from you that is nearly identical with one a competitor used from your counterpart in the next school down the road.

If you do wish to use the release about "as is," have it retyped. News people generally prefer releases:

1. Double-spaced on one side of an 8½ x 11 piece of paper;

2. With a "source line" at the extreme top margin, giving the name, identification and phone number of the source of the release (you or your director or superintendent).

3. With about three inches of blank space left between the "source line" and the beginning of the text, a 1½ inch left margin and a 1-inch right margin (to allow space for headlines, instructions to the typesetting or news reader, etc.).

In dealing with news people, it is generally better to approach them - not asking for "publicity" or to do you a favor, but rather offering them some legitimate news. It doesn't hurt to acknowledge that the release would help you with the survey but the net understanding needs to be that the release is "good for your news person" because it is bonafide news and "good for you" because it can promote your survey.

Good luck!

Appendix E (continued)

EXAMPLE

(Dorothy Doe, Superintendent, Stony Heights Public Schools, Ph: 657-7823)

1½ inches 3 inches 1 inch

(1) will ask about (2) former students for their opinions and other information concerning the vocational programs (3) in which they were enrolled last school year.

(4) said the survey questionnaire will ask them to report what they are doing and how well they feel the school served their needs. The annual survey, conducted in cooperation with the Michigan Department of Education, provides information for planning more effective local and state educational programs.

Contacts with former students, (5) said, will be by (6) between March 15 and April 30. He/she urged the former students to answer and their relatives to help by locating them if necessary "so that as many as possible can be represented in improving the school's programs." He/she emphasized that the identity of those who answer the questions is kept confidential and is used only for planning purposes and to provide services to students.

---End---

. . . . . .

(1) Your school name. (2) Total number of former students you plan to contact. (3) If you are surveying non-vocational former students, add: "and other courses" here. (4) Your name and title or other as appropriate. (5) Last name of person quoted. (6) "telephone" or "mail" or "mail and telephone".

Appendix F

Sample Follow-Up of Non-Respondents

Note: Please send a follow-up letter or make a follow-up telephone call to former students who have not responded to the initial cover letter and survey form. The following sample follow-up letter may be modified to suit your own needs.

(date)

Dear Survey Participant:

Recently we sent a survey form to you concerning the vocational education experiences* you had at L.E.A. and how they relate to what you are doing now. It is important we have your opinions as we begin to look at the results of the survey.

If you have not received a survey form, or if it has been misplaced, please call Name at Telephone Number and we will mail a copy to you. If you already completed the form, please drop it in the mail today.

Thank you for your help.

Sincerely,

(Name of Local School Official)

* For non-vocational graduates, you may want to substitute. . . concerning the educational experiences. . .

Appendix G

School Use Questions

1. Was this respondent reported as a completer or leaver in a vocationally reimbursed program on Vocational Education Form 4301 - "Secondary Vocational Enrollment and Termination Report" for school year ending June 30, 1980? (Mark "No" for non-vocational education students and students who were enrolled in 09.0100 Consumer and Homemaking classes.)

   [1] Yes If "Yes", please indicate the respondent's termination status as reported on Form VE-4301.

   [1] Completer

   [2] Leaver

   [2] No (If "No", do not complete any more items.)

2. Did the respondent graduate from High School?

   [1] Yes

   [2] No

3. Was this respondent a participant in the co-op component of a vocationally reimbursed program and reported on Form VE-4301?

   [1] Yes

   [2] No

4. Was this respondent reported on the VE-4301, "Secondary Vocational Enrollment and Termination Report" (for school year ending June 30, 1980), as Handicapped, Limited English Proficiency, or Disadvantaged?

   [1] Yes If "Yes", mark all categories in which the student was reported.

   [1] Handicapped

   [2] Limited English Proficiency

   [3] Disadvantaged

   [2] No

5. Was the respondent officially enrolled in a reimbursed special needs project during the 1979-80 school year and reported on Vocational-Technical Education Form VE-4166-C - "Final Report for Vocational Education Projects for Persons With Special Needs"?

[1] Yes If "Yes", please indicate the category in which the student was reported.

[1] Handicapped

[2] Limited English Proficiency

[3] Disadvantaged

[2] No

6. Please indicate the O.E. Code, Name of Program, and Program Serial Number (PSN) for the respondent's vocational education program as reported on Form VE-4301.

O.E. Code __ __. __ __ __ __

Name of Program _____

7. PSN __ __ __ __ __

8. If the student's vocational training was received in a district (shared-time program or area center) different from his/her home school, fill in the CEPD and district numbers of the student's home school.

CEPD DISTRICT

9. Was this student contacted by phone to obtain the survey information?

[1] Telephone

[2] Mail

APPENDIX C

COVER LETTER FOR SURVEY

APPENDIX C

3000 Sunderland
Lansing, Michigan 48910
May 26, 1981

Vocational Director
(contact person taken from
Fall, 1981 enrollment reports
for each PSN)

Dear

The vocational education programs identified on the accompanying questionnaires have been randomly selected for a research project being conducted by myself in completion of the requirements for a doctorate degree under the direction of Dr. Billie T. Rader at Michigan State University. I am asking your assistance by determining to what degree the said programs are competency-based.

Please mark the answers to the questions about the vocational stenographer programs identified in the upper right corner of the questionnaires and return them to me no later than June 9, 1981. A stamped, previous-addressed envelope is enclosed for your convenience.

Thank you for your time and efforts. If you would like, I will make available the results of my study upon request.

Sincerely,

Sherry L. Anderson

APPENDIX D

QUESTIONNAIRE TO DETERMINE THE DEGREE A VOCATIONAL EDUCATION PROGRAM IS COMPETENCY-BASED

PSN _____

Building _____

Program 14.0703

DIRECTIONS: The following questions all relate to the Stenographer program as it operated during the 1979-80 school year. The questions have been grouped into seven basic components. Please circle a yes or no for each question, whichever is most true about the program in question.

Competencies

1. Are the competencies specifically stated in behaviorial terms?	Yes	No	Don't Know
2. Are the competencies made public?	Yes	No	Don't Know
3. Do the competencies have mastery levels or performance criteria which make criterion assessment possible?	Yes	No	Don't Know
4. Are competencies stated for the co-op experience?	Yes	No	Don't Know
5. Are competencies stated for some of the vocational courses?	Yes	No	Don't Know
6. Are competencies stated for the entire vocational program?	Yes	No	Don't Know
7. Are competencies stated for the vocational classroom learning?	Yes	No	Don't Know
8. Are competencies stated for all school courses?	Yes	No	Don't Know
9. Are competencies derived from an analysis of the worker's role?	Yes	No	Don't Know
10. Are competencies derived by using input from experienced workers in the field?	Yes	No	Don't Know
11. Are competencies written in the cognitive area?	Yes	No	Don't Know
12. Are competencies written for performance skills?	Yes	No	Don't Know
13. Are competencies written in terms of pupil outcomes?	Yes	No	Don't Know
14. Are competencies written in terms of attitudes to be demonstrated?	Yes	No	Don't Know
15. Are competencies subjected to continual (at least yearly) validation procedures?	Yes	No	Don't Know

Assessment

1. Is assessment directly related to the competency statements?	Yes	No	Don't Know
2. Is competency assessment based on stated mastery levels or performance criteria?	Yes	No	Don't Know
3. Are criteria specified and made public in advance of instruction?	Yes	No	Don't Know
4. Does assessment utilize performance as primary evidence?	Yes	No	Don't Know
5. Does assessment strive for objectivity and consistence?	Yes	No	Don't Know
6. Is the learner accountable to achieve competencies?	Yes	No	Don't Know

Individualized Instruction

1. Does the program's instruction accommodate for learner style (sequence preference, pacing, perceived need)?	Yes	No	Don't Know
2. Are alternative instructional modes available for competency attainment?	Yes	No	Don't Know

Individualized Instruction (continued)

3. Is instruction modularized?	Yes	No	Don't Know
4. Can students choose among objectives?	Yes	No	Don't Know
5. Are exit requirements emphasized, making time a variable?	Yes	No	Don't Know
6. Is the rate of progress determined by competency completion?	Yes	No	Don't Know

Field Centered

1. Do students receive career exploration opportunities prior to co-op experience?	Yes	No	Don't Know
2. Does evaluation of some objectives take place at the co-op worksite?	Yes	No	Don't Know
3. Do students receive on-site training in the work setting?	Yes	No	Don't Know
4. Is the work supervisor involved in assessment of student performance?	Yes	No	Don't Know
5. Is the work supervisor involved in formal instruction activities?	Yes	No	Don't Know

Systematic

1. Is data collected on the program and student achievement?	Yes	No	Don't Know
2. Is feedback of evidence on the functioning and effectiveness of the system continual?	Yes	No	Don't Know
3. Is feedback on performance provided to students on a continual basis?	Yes	No	Don't Know
4. Is the program regenerative-continual revision, systematic, evaluation to insure relevancy of tasks, and instruction revised on basis of learner feedback?	Yes	No	Don't Know
5. Is a management system established which includes accounting for program objectives, student performance, and materials used?	Yes	No	Don't Know
6. Is communication within the program and among staff effective?	Yes	No	Don't Know

Program

1. Is instruction intended to facilitate development of competencies and derived from competency statements?	Yes	No	Don't Know
2. Is evaluation to determine if goals achieved an on-going process?	Yes	No	Don't Know
3. Is the entire training program (first year, second year, and co-op) unified and integrated?	Yes	No	Don't Know
4. Is the program held accountable for			
a. meeting student needs	Yes	No	Don't Know
b. relevancy	Yes	No	Don't Know
c. effectiveness	Yes	No	Don't Know

Decision-Making

1.	Are decisions based on feedback, input data, and competency-assessment?	Yes	No	Don't Know
2.	Is decision-making broad-based - all groups involved are represented in policy decisions?	Yes	No	Don't Know
3.	Do students participate in decision-making?	Yes	No	Don't Know

APPENDIX E

VOCATIONAL ADMINISTRATORS CONTACTED

Vocational Administrators Contacted

Greenville High School	Eldon A. Horton Director of Vocational Education 516 West Cass Greenville, Michigan 48838
Port Huron Central	Robert C. Beedon Director of Vocational Education 509 Stanton Street Port Huron, Michigan 48060
Goodrich High School	Brian Walton Goodrich Area Schools 8029 South Gale Road Goodrich, Michigan 48438
Grand Rapids Union	J. Barry Boyer Director of Vocational Education 143 Bostwick, NE Grand Rapids, Michigan 49502
Kalamazoo Central	Herbert Snow Director of Vocational Education 1220 Howard Street Kalamazoo, Michigan
Branch Intermediate School District	Bernie Stankewicz CEPD Vocational Specialist P.O. Box 509 Coldwater, Michigan 49036
East Detroit High School	Dr. Alvin Clark Director of Vocational Education 19200 Stephens Drive East Detroit, Michigan 48021
L'Anse Creuse Career Education Center	Frank B. Boeger Director of Vocational Education 24600 F.V. Pankow Boulevard Mt. Clemens, Michigan 48043
Warren Consolidated	Eldon Kaufman Warren Consolidated Schools 31300 Anita Warren, Michigan 48093

Detroit Public Schools	John Cushner Director of Business Education 5057 Woodward Avenue Detroit, Michigan 48202
Inkster High School	Mrs. Jessie C. Moner Vocational-Technical Director 1771 Henry Ruff Inkster, Michigan 48141
Lincoln Park	James Dyson Director of Vocational Education Lincoln Park School District 1545 Southfield Lincoln Park, Michigan 48146
Plymouth Salem	Harold Gaertner Director of Vocational Education 454 South Harvey Street Plymouth, Michigan 48170
Redford Union	Robert C. Gault Redford Union Schools 18499 Beech-Daly Road Redford, Michigan 48240
South Redford	Robert Mathers South Redford Public Schools 26141 Schoolcraft Redford, Michigan 48239
Wyandotte	Patricia A. Cole Director of Vocational Education 639 Oak Street Wyandotte, Michigan 48192
Southgate High School	Eugene Parsons Director of Curriculum 13100 Burns Street Southgate, Michigan 48195
Airport High School	W. Robert Schnieders CEPD Vocational-Technical Specialist 20684 Erie Street Flat Rock, Michigan 48134
Dowagiac High School	Ned B. Sutherland CEPD Vocational-Technical Specialist Cass County Intermediate School District 58253 M-62 Cassopolis, Michigan 49031

Fowler High School	James A. Andros Principal Fowler High School P.O. Box 308 Fowler, Michigan 48835
Eaton Rapids	Richard Blett Principal Eaton Rapids High School 800 State Street Eaton Rapids, Michigan 48827

APPENDIX F

VOCATIONAL EDUCATION EMPLOYMENT DEMAND PROGRAM RANKING FOR FY 1980-81

VOCATIONAL EDUCATION
EMPLOYMENT DEMAND PROGRAM RANKING
FOR FY 1980-81

The following list represents the major vocational education programs offered at the secondary level in Michigan. They have been ranked below in descending order by projected number of annual job openings to 1985 with the assistance of the Michigan Employment Security Commission (MESC). MESC's Research and Statistics Division, working with the U.S. Department of Labor's Bureau of Labor Statistics, has prepared the 1976-1985 Occupational Employment Projections for the State of Michigan. The basis for the ranking is listed below.

Rank	Program Code	Program Name	Estimated Range of Annual Job Openings
1	04.0200	Apparel & Accessories	Over 10,000
	04.0800	General Merchandise	
	14.1905	Warehousing	
2	14.0703	Stenographers	Over 10,000
	14.0797	Medical Secretary	
	14.0798	Legal Secretary	
3	07.0908	Food Service Supervisor	6,000 - 10,000
	09.0203	Food Management	
4	07.0302	Practical Nursing	6,000 - 10,000
	07.0303	Nursing Aide	
	07.9802	Health Occupations Cluster	
	07.0202	Histology	
	07.0305	Surgical Technician	
5	14.0101	Accounting and Computing	6,000 - 10,000
	14.0102	Bookkeepers	
	14.0104	Machine Operators	
	14.0105	Tellers	
	14.0504	Stock and Inventory Clerks	
6	14.0303	General Office Clerk	2,000 - 6,000
	14.0901	Clerk Typist	
	14.9700	Clerical Lab	
	14.9800	Steno/Clerical Lab	
7	01.0100	Agriculture Production	2,000 - 6,000
8	01.0300	Agriculture Mechanics	1,000 - 2,000
	01.0301	Agricultural Power and Machinery	
	17.1003	Heavy Equipment	
	17.1200	Diesel Mechanic	

Rank	Program Code	Program Name	Estimated Range of Annual Job Openings
9	17.2306	Welding and Cutting	1,000 - 2,000
10	17.0302	Auto Mechanics	1,000 - 2,000
	17.0303	Auto Specialization	
11	09.0201	Child Care and Guidance	1,000 - 2,000
12	17.1000	Building Trades - In-School	1,000 - 2,000
	17.1001	Carpentry	
	17.1098	Building Trades - On-Site	
13	07.0904	Medical Office Assistant	1,000 - 2,000
	07.9801	Ward Clerk/Ward Secretary	
14	17.1002	Electricity	1,000 - 2,000
	17.1400	Electrical Occupations	
	17.1401	Industrial Electrician	
15	17.2302	Machine Shop	1,000 - 2,000
	17.2307	Tool and Die Making	
16	17.1007	Plumbing and Pipefitting	1,000 - 2,000
17	01.0500	Ornamental Horticulture	1,000 - 2,000
	01.0502	Floriculture	
	01.0503	Greenhouse Operation and Mgt.	
	01.0504	Landscaping	
18	17.2602	Cosmetology	1,000 - 2,000
19	17.1300	Drafting Occupations	1,000 - 2,000
	17.1398	Architectural Drafting	
20	17.1005	Painting and Decorating	Under 1,000
21	14.0200	Computer, Console, Key Punch, and Coding Equipment Operator	Under 1,000
	14.0201	Computer and Console Operators	
	14.0202	Peripheral Equipment Operator-Key Punch	
	14.0203	Programmers	
22	17.1500	Electronics	Under 1,000
	17.1501	Communications	
	17.1502	Industrial Electronics	
	17.1503	Radio and Television	

Rank	Program Code	Program Name	Estimated Range of Annual Job Openings
23	17.0900 17.1900 17.1903	Commercial Photography Occup. Graphic Arts Lithography, Photography, and Platemaking	Under 1,000
24	07.0101	Dental Assistant	Under 1,000
25	17.0100 17.0102 17.3000	Air Conditioning Heating Refrigeration	Under 1,000
26	17.3100	Small Engine Repair	Under 1,000
27	17.0301	Body and Fender	Under 1,000
28	17.2305	Sheet Metal	Under 1,000
29	04.0100	Advertising Services	Under 1,000
30	17.0200	Appliance Repair	Under 1,000
31	09.0204 17.0701	Home Furnishing, Equipment, and Services Interior Decorating	Under 1,000
32	09.0202	Clothing Management	Under 1,000
33	17.3600 17.3601	Woodworking Millwork-Cabinet Making	Under 1,000
34	17.0600 17.1598	Business Machine Maintenance Radio and Television Broadcasting	Under 1,000
35	17.0400 17.0401	Aviation Occupations Aircraft Maintenance	Under 1,000
36	17.0700	Commercial Art	Under 1,000

Approximately fifteen reimbursed secondary vocational education programs were not included in the ranking for one of the following reasons:

1. No census-based occupational data could be related to them.
2. The majority of training for these occupations does not occur at the secondary school level.
3. The average educational level of people employed in this occupation suggests that a secondary vocational program is not required.