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COMPETENCY-BASED VOCATIONAL EDUCATION
AS VIEWED BY ADMINISTRATORS, AND TEACHERS
FROM MASSACHUSETTS REGIONAL VOCATIONAL HIGH SCHOOLS

A DISSERTATION PRESENTED

by

CHARLES A. SHEAFF

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

DOCTOR OF EDUCATION

February 1987

Education

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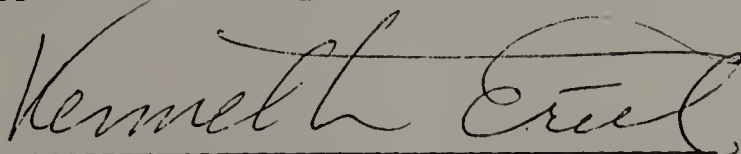
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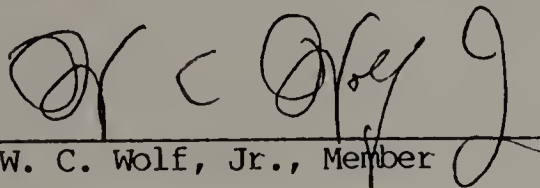
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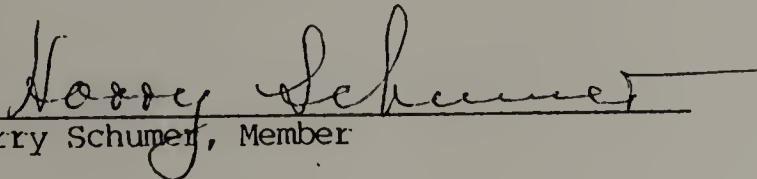
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ABSTRACT

COMPETENCY-BASED VOCATIONAL EDUCATION
AS VIEWED BY ADMINISTRATORS AND TEACHERS
FROM MASSACHUSETTS REGIONAL VOCATIONAL HIGH SCHOOLS

FEBRUARY 1987

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CBVE was initiated by the Massachusetts Division of Occupational Education to improve the presentation of vocational educational programs in the secondary schools. Subject specialty area curricula are being developed and disseminated to teachers in the state along with resource materials and in-service workshops. The implementation of CBVE, as with any educational program modification, encounters many impediments which must be addressed. In order for CBVE to continue its contribution to vocational education, outcomes of evaluation studies are needed to answer problems raised about the programs.

An administrator survey instrument was sent to the Superintendent-Director of the 27 vocational high schools in Massachusetts. A separate teacher survey was sent to 20 vocational teachers indicated by the state education agency as utilizing CBVE in their classrooms. The survey instrument contained a series of Likert statements which were tabulated by frequency of response and weighted values.

The results of the study, based on a 93% return rate of the administrator survey, and a response rate of 95% for the teacher survey, provided data regarding the extent of the use of CBVE in Massachusetts vocational high schools, the attitudes and perception of administration and teachers toward CBVE, and areas of strengths and weaknesses of CBVE as perceived by those most involved with its use.

Based on the results of the research, it was concluded: (1) that the initiative of the state education agency regarding CBVE is having a definite impact on the presentation of vocational education in Massachusetts; two-thirds of the administrators indicated that CBVE was being utilized in their schools or they were presently reviewing CBVE materials for future adoption; (2) that the overall attitude of teachers and administrators toward CBVE is positive; (3) that the use of CBVE materials in the classroom has a great impact on the overall accountability of the vocational program; and (4) that programs utilizing CBVE are more accessible to target populations such as special needs and non-traditional students due to the use of individualized instruction.

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CHAPTER I

ORIENTATION TO THE STUDY

INTRODUCTION

The vocational educator, working amid ever-changing technologies, is constantly pressed with the question of what content to teach. This concern, coupled with the public demand for more accountability in our educational process, has forced the need to examine methodologies used in vocational education. One response to this examination of the presentation of vocational education is the development of Competency-Based Vocational Education (CBVE).

As defined in the Massachusetts Manual for CBVE Curriculum Development (1984) CBVE is:

A total system for planning, development, and implementing a curriculum where, all activity in the shop and related areas is focused on developing pre-stated occupational skills by using structured learning activities. Criteria for assessing attainment are also specified in advance.

The CBVE movement is based on five main principles as stated by McLean (1984):

1. Human competence is being able to perform.
2. Most students can master most tasks at high levels of proficiency if given high quality instruction and sufficient learning time.
3. A student's ability is not an indication of how much he or she can learn but an indication of how much time it may take.

4. There are not good and poor or fast and slow learners, but rather good and poor, fast and slow learning occurring in the present, traditional system.
5. What is worth learning is worth teaching.

The CBVE approach drawn, from the principles stated above and based on a curriculum that is founded on actual job competencies, is gaining rapidly in popularity across the country. As viewed by Chalupsky (1981):

Whether one views competency-based vocational education as a great new movement, or new gimmick, or "just good educational practice", there is little doubt that CBVE is rapidly spreading and its effect on vocational education will be felt for many years to come.

The Development of CBVE in Massachusetts

During the 1970's CBVE, as a method to solve some of the problems associated with the presentation of vocational education, was being adopted by many state education agencies. Research data and education reports indicated widespread support for CBVE as an effective approach to teaching and learning. Many schools, and even individual programs, were adopting the concept often without state support.

Adoption of the concept of CBVE in the State of Massachusetts occurred as explained by McLean (1984):

As the Division of Occupational Education in Massachusetts followed closely the spread of CBVE and carefully reviewed the literature, it became convinced that CBVE could respond to some of the needs of vocational educators in the Commonwealth. A proposal for the adoption of CBVE was presented to the Division of Occupational Education Policy Review Board in June of 1981. After three meetings the CBVE package was endorsed with some modifications.

The final recommendation was that CBVE should be developed as a model curriculum to be piloted at one regional vocational

high school per region; it should be developed in only a few program areas; it should be coordinated with the new taxonomy (a system for coding occupations) and it should be assisted by a central coordinating advisory committee whose membership should include a number of student organizations.

In the State of Massachusetts, the Division of Occupational Education has the responsibility of vocational education, as stated in the Chapter 74 State regulations governing vocational education, which became effective September 1, 1977:

The Division of Occupational Education under the direction of the State Board, and the commissioner of education, is responsible for implementing the requirements of G.L.c.74 relating to state-aided vocational education.

One of the requirements of Chapter 74 which the Division of Occupational Education must address and which is related to the implementation of CBVE is that of section 4.05 which deals with the Course of Study:

Each school desiring to obtain approval for a G.L.c.74 vocational program shall submit the proposed course(s) of study showing the proposed instructional objectives, including expected student competencies, scope, content, order of presentation of content and anticipated cost. In addition, the school shall submit manpower data demonstrating a need for the program as well as skills taught in the program.

Approval of course of study shall be based upon quality of the instructional program, relevance of expected competencies to actual job requirements, coordination of program levels and integration with other programs, responsiveness to occupational outlook based upon comprehensive manpower data, cost effectiveness and efficient use of student time.

To complement the CBVE program within high school vocational education programs in the State of Massachusetts, six major objectives were identified which would address the curriculum revision and staff training in a coordinated and efficient manner:

1. To select from among the existing CBVE models the program and format appropriate to the goals of vocational education in Massachusetts.
2. To identify program areas best suited for curriculum development using the CBVE process.
3. To identify schools who would be interested in piloting CBVE curriculum develop and use.
4. To provide the pilot schools with financial and technical assistance.
5. To provide staff training for pilot school staff.
6. To provide current CBVE information and selected resources for all vocational institutions.

Pilot Project I 1982-1983

Working toward meeting the stated objectives, a CBVE model was selected and six program areas were selected for curriculum revision.

This selection was on the basis of:

- (a) relative importance of the program on the local or national level according to the labor market review.
- (b) availability of resources (research materials and developed programs).
- (c) sufficient number of schools in the state who are offering the program.

The programs identified were Agricultural Mechanics, Machine Occupations, Electronic Technician, Hotel and Lodging, Practical Nursing, Food Service-Production and Management.

The selection of schools to be involved in the review and adoption and development of model CBVE curricula was done by requesting proposals. As a result, at its May 1982 meeting, the Board of Education funded eight proposals, seven for curriculum development and

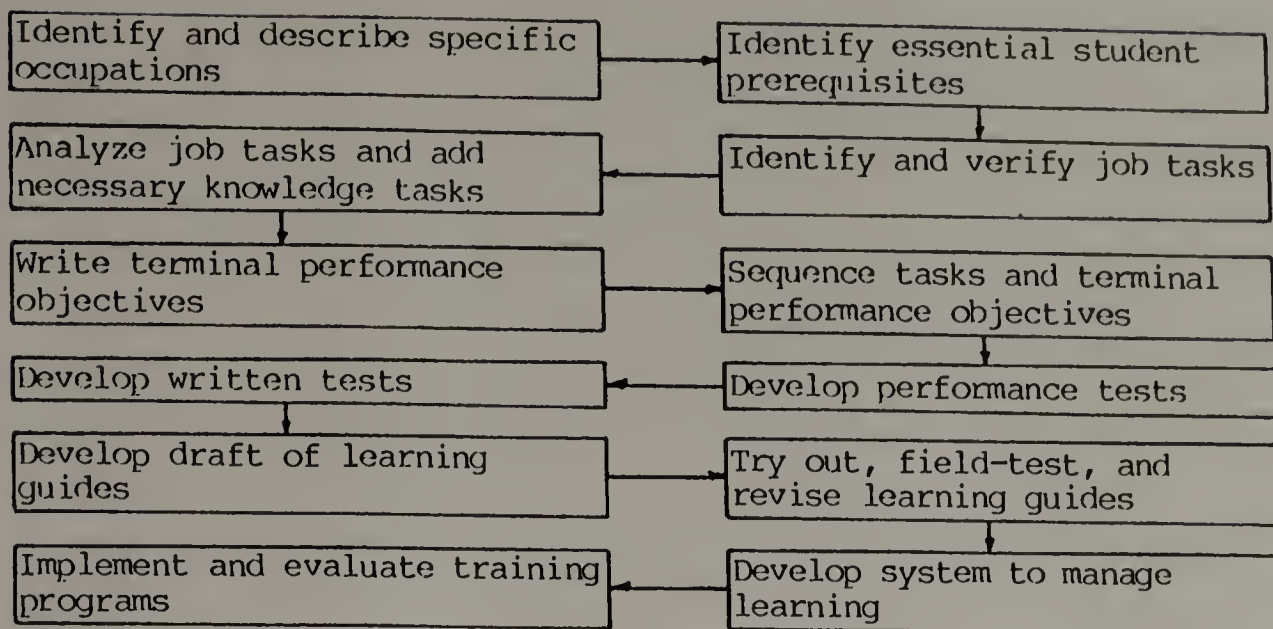
one funded to provide training for the program area staff of the pilot schools. Thus, the initiation of CBVE had begun in Massachusetts.

Pilot Project II 1983-1984

The second CBVE project, started in 1983, involved 12 schools in 6 new program areas - Auto Mechanics, Child Care, Computer Programming, General Merchandising, Nursing Assistant, and Ornamental Horticulture. Also included in the funding was a leadership grant to provide for the coordination of the project activities, final editing of the curricula and revision of the staff training manual. For this project two schools, forming a paired team, were selected for each project area. The work of these teams is explained in Fig. 1 - "Steps in the Development of a Competency-Based Vocational Education Program". These twelve steps were adopted from Block (1982).

STEPS IN THE DEVELOPMENT OF A

COMPETENCY-BASED VOCATIONAL EDUCATION PROGRAM



- Fig. 1 -

Subsequent funding has resulted in work in a total of 21 program areas, as listed in Fig. 2. Work on 21 program areas, coupled with the development of the Massachusetts Manual for CBVE Curriculum Development, demonstrated significant progress toward the promotion of CBVE in high school vocational program in Massachusetts. McLean (1984) has identified several benefits of the Massachusetts CBVE system. The CBVE system provides for:

1. Participatory planning between business/industry and education to identify job-relevant skills.
2. Coordinated curriculum review, adaptation and development to guard against duplication of effort.
3. Mutually beneficial sharing of resources through a state-wide dissemination plan.

4. Needed articulation between secondary and post-secondary institutions for smooth transition of students.
5. Economic approach to in-service training, to update or extend instructional capabilities.

Other benefits of the system to be realized by individuals in the educational community, again as stated by McLean (1984):

Vocational Schools - will have available to them job-relevant curricula and a coterie of vocational instructors trained in curriculum development and with the capacity to give technical assistance to their peers.

Vocational Administrators - will have Chapter 74 approvable curricula, a manual for staff training, a tool for accountability and hiring, and articulation among vocational schools and with post-secondary institutions.

Vocational Instructors - will have organized, itemized curricula with contents encompassing what they plan to teach and more; a bibliography of resources and materials; individualized instruction material and basis for communication among their peers in similar programs.

Vocational Students - will have the curricula to give them a sense of direction, responsibility for learning and some motivation to learn. They will also have the avenue for self-paced independent learning.

STATEMENT OF THE PROBLEM

CBVE was initiated by the Massachusetts Division of Occupational Education to improve the presentation of vocational education programs in the secondary schools. To date twenty-one subject specialty curricula have either been developed, or are in the process of development. The list of these subject specialty areas is shown in Figure 2. These curriculum materials are being distributed throughout the Commonwealth, supplemented with teacher training materials and workshops. CBVE is increasing in use across the state.

C.B.V.E. PROGRAM SPECIALTY AREAS

DEVELOPED IN MASSACHUSETTS

- | | |
|---|---|
| 1. AUTO MECHANICS | 11. GRAPHIC ARTS * |
| 2. BODY & FENDER REPAIR * | 12. HEATING VENTILATION AND
AIR CONDITIONING * |
| 3. CARPENTRY * | 13. HOTEL AND LODGING |
| 4. CHILD CARE | 14. MACHINE SHOP |
| 5. COMPUTER TECHNOLOGY | 15. MEDICAL ASSISTANT * |
| 6. DRAFTING * | 16. NURSING ASSISTANT |
| 7. ELECTRICAL TECHNOLOGY * | 17. ORNAMENTAL HORTICULTURE |
| 8. ELECTRONIC TECHNICIAN | 18. PLUMBING AND PIPEFITTING * |
| 9. FOOD SERVICE, MANAGEMENT
AND PRODUCTION | 19. SMALL BUSINESS MANAGEMENT * |
| 10. GENERAL MERCHANDISING | 20. SMALL ENGINE REPAIR * |

* IN PROCESS OF DEVELOPMENT

- Fig. 2 -

CBVE has historically encountered several areas of opposition to its implementation, the most outstanding of these being the attitudes of teachers regarding the amount of their time which the innovation will require. Writing and updating curriculum materials and recordkeeping have the potential to occupy a lot of the instructors' time.

The implementation of CBVE, as with any educational program modification, will encounter many impediments which must be addressed. The first of these deals with the overall rate and extent of adoption of the CBVE concept as presented by the state education agency. Often

times, changes occurring due to a top down initiative are met with apprehension.

From its inception, one of the goals of CBVE in Massachusetts was to make vocational education more equitable for the vast range of students who could benefit from the programs being offered. This would encompass students who would traditionally be found in vocational programs, as well as target populations such as special needs students, and non-traditional students. In order to meet this goal, a more individualized, efficient means of presenting vocational education is required.

The steady increase of the number of programs involved with CBVE presents the opportunity and need to examine the initiative in order to determine if it is attaining its intended goals, and what components are considered strengths, and which are in need of review and revision.

In order for CBVE to continue its contribution to vocational education, outcomes of evaluation studies are needed to answer problems raised about the program. Information gained through these kinds of studies can be used to improve the existing programs, to provide evidence of CBVE advantages over a more traditional approach, and to influence more widespread adoption of CBVE.

PURPOSE OF THE STUDY

The overall purpose of the study was to ascertain consequences of recent state education agency officials' CBVE initiatives within local education agencies. Four specific purposes were investigated:

1. To document the initiatives of the state education agency regarding CBVE and the local education agencies' response to these initiatives.
2. To ascertain perceptions and attitudes of vocational education instructors and administrators within local education agencies toward CBVE.
3. To study the attitudes of teachers and administrators of high school vocational programs toward CBVE as an accountability measure.
4. To analyze vocational education instructors' and administrators' perceptions and attitudes toward the various elements of program development in order to determine:
 - a. which elements meet needs of the respondents consistently;
 - b. strengths and limitations of forms in place currently.

SIGNIFICANCE OF THE STUDY

The CBVE movement in Massachusetts got its main impetus from pilot projects in curriculum development initiated by the Division of Occupational Education in 1982. Since that time, many schools opted to make use of the CBVE methodology outlined. This study will attempt to determine the perceptions of instructors, and administrators using the programs in high schools across the state. The relative strengths and areas of weakness of programs surveyed will be ascertained. Results of the study will be forwarded to the Massachusetts Division of Occupational Education for consideration in improving the overall effectiveness of CBVE programs in the State of Massachusetts.

RESEARCH QUESTIONS TO BE ADDRESSED

The study sought answers to the following research questions:

- Related to Purpose 1-

1. To what extent do the schools accept the concept of CBVE?
2. What are the perceptions of administrators and teachers toward the quality of CBVE material being developed?
3. Is vocational education more equitable for target populations as a result of CBVE?

- Related to Purpose 2 -

1. What are the attitudes of administrators and teachers toward the concept of CBVE as compared to a more traditional approach?
2. What is the perceived effect of CBVE in terms of students' enthusiasm toward and satisfaction with the curriculum, the learning process, and vocational education in general?
3. What are the teachers' perceptions of the ease of implementing, continuing, and supporting CBVE programs?
4. What is the perceived impact of CBVE on day-to-day classroom management and student-teacher interaction?

- Regarding Purpose 3 -

1. To what extent is CBVE perceived as effective as a means to supplement or facilitate teacher effectiveness in the classroom and/or meet students' individual career needs?
2. Does CBVE enhance the accountability of the vocational education programs?

- Regarding Purpose 4 -

1. What elements of CBVE are perceived as strengths of the initiative?
2. What elements of CBVE are in need of improvement?

DEFINITION OF TERMS

There are many interpretations, connotations and definitions of various terms associated with Competency Based Vocational Education. As a result, the following list of terms and their definitions as used in this study is included. These definitions are the same as those used in the Massachusetts Manual for CBVE Curriculum Development. For a complete list of the terminology associated with the CBVE process, consult pages 441-444 of the Massachusetts Manual for CBVE Curriculum Development (1984).

ATTAINMENT

The level of achievement that consistently meets the occupational standards stated in a performance test; frequently referred to as MASTERY.

COMPETENCY

1. A skill required of a worker. See TASK.
2. The ability to produce desired results.

COMPETENCY-BASED VOCATIONAL EDUCATION

Competency-Based Vocational Education. A total system for planning, developing, and implementing a curriculum where, all activity in the shop and related areas is focused on developing pre-stated occupational skills by using structured learning activities. Criteria for assessing attainment are also specified in advance.

CURRICULUM

An overall design for an educational program. The curriculum for a CBVE program consists of four major components: a verified program task listing, performance objectives, criterion-referenced performance and knowledge tests, and learning activities.

EMPLOYABILITY SKILLS

Desirable employee attitudes and work habits; for example, regular attendance, promptness, safety awareness, neatness, and cooperativeness. Sometimes called job-keeping skills.

EVALUATION

Measurement of learner's ability to perform; assessment of degree of competence. Job task attainment is always evaluated with a performance test; a knowledge test may also be part of the evaluation. Knowledge tasks are evaluated with a knowledge test.

JOB DESCRIPTION

One or two narrative paragraphs describing what a worker does and the conditions under which the person works.

LEARNING GUIDE

A self-paced instructional booklet used by students to learn a task; contains objectives, learning activities, and evaluation instruments.

MANAGEMENT SYSTEM

A plan for effectively managing student learning and evaluation; includes record-keeping, grading system, time and facility use, employability skills evaluation, and all other aspects of curriculum implementation.

MASTERY

See ATTAINMENT. Note: Mastery as used in this manual means that a student has acquired competency in a given skill; it should not be confused with "master tradesman."

OPEN-ENTRY, OPEN-EXIT PROGRAM

A vocational training program where students enter the program at any time and exit when they have mastered all the tasks; completely self-paced.

PERFORMANCE OBJECTIVE

A written statement identifying what a student must be able to do under specified conditions in order to achieve attainment of a task. It contains three distinct elements:

1. The condition (GIVEN);
2. The performance (YOU WILL);
3. The standard (HOW WELL).

PERFORMANCE STANDARD

A pre-stated level of achievement. See PERFORMANCE TEST.

PERFORMANCE TEST

A list of criteria used by the instructor to evaluate student performance; may assess either process or product or both.

The performance test is included in the learning guide so that students know what is expected of them.

PREREQUISITE

Knowledge or skill required beforehand.

RESOURCE

Anything a student uses to carry out a learning activity; includes people, print materials, audio-visuals, supplies, tools, and equipment.

SELF-CHECK

The last learning activity for each enabling objective; provides students with immediate feedback on their progress. Students use an answer key to evaluate their own responses; may also require instructor evaluation.

TASK ANALYSIS

A written, detailed breakdown of job tasks; includes identification of procedural steps, technical and related knowledge, specialized tools, and attitude and work habits.

CHAPTER II

LITERATURE REVIEW AND RELATED RESEARCH

Introduction and Historical Background

Competency-based education has been called the educational reform movement of the 70's and 80's. This is evidenced by the passage of legislation in more than 70% of the states, by 1980, requiring some form of minimum competency testing of students (Knaak, 1980). There are many other terms used as descriptors for this movement, some of them being: performance-based education, criterion-referenced instruction, mastery learning, and proficiency-based education. For the purpose of this report, the terms competency-based education (CBE) and competency-based vocational education (CBVE) will be used interchangeably to refer to the educational system being described. It is understood that CBVE is only a small section of the broader competency-based education movement.

The concepts behind Competency Based Education (CBE) are not new. It is, however, fast becoming the major reform movement in American education today. This has been prompted by a public call for accountability, and the demand for a closer look at how and what is being taught in our schools from elementary through post-secondary institutions.

Charles R. Allen, in his book The Instructor, the Man and the Job (1911), described an approach to occupational training which sounds very similar to contemporary discussions of competency-based vocational education. His approach starts with determining skills to be taught with a "trade analysis", followed by careful organization of the skills into learning units or "blocks". The order of instruction was to be based upon difficulty level and prerequisite knowledge and skills required. Allen recommended an individualized approach to instruction:

Not only should the training work be so organized that a man can be admitted to an instructional group at any time but the organization should be such that each man can progress through the course of training...as rapidly as his individual capabilities will admit (p. 211).

The rational and efficient organization of education, particularly vocational education, was developing rapidly during this time period. There also existed an active humanistic opposition to the "efficiency" trend. A major spokesman for humanism in education was John Dewey. Even though many of the concepts developed into the model of competency-based education, i.e., meeting the needs of individual children, and encouragement of a project approach, fit well with Dewey's concept of education, he challenged its narrowness of focus:

...such training may develop a machine-like skill in routine lines (it is far from being sure to be so, since it may develop distaste, aversion, and carelessness), but it will be at the expense of those qualities of observation and coherent and ingenious planning which makes an occupation intellectually rewarding. In an autocratically managed society, it is often a conscious object to prevent the development of freedom and responsibility; a few do the planning and ordering, the others follow directions and are deliberately confined to narrow and prescribed channels of endeavor.

A public call for accountability in the school systems led to a more recent predecessor to CBVE which was programmed instruction, reaching its peak in the early 1960's. Although it did not prove to be effective due to the high cost of the equipment it required, it did focus on setting objectives for instruction in measurable terms. Another important concept that it reinforced was the organization of information to be learned into small sequential steps.

Another answer to the call for accountability in the schools was given by Robert Mager in his book on behavioral objectives written in 1962. The major advantages of this approach are described by Polk (1982, p. 2-3) as being:

1. The objectives provided a means to organize instruction by teaching only those things directly related to the pre-stated objectives.
2. They provided the only way to assess the effectiveness of the instructional process, since what cannot be measured cannot be said to have been learned.

About this same time John Carroll wrote an article entitled "A Model of School Learning." In this article, Carroll suggested that given sufficient time, most students could learn anything. It was only a short step from here to individualized instruction. This would include stating desired outcomes, and allowing students to proceed at their own pace toward those objectives.

The auto-tutorial approach to learning was a highly individualized method, developed at Purdue University (1963). The major pitfall to the A-T system was that it did not ensure that students had achieved the objectives. Bloom (1968) and Keller (1968) simultaneously

developed similar approaches to education which aided the concept of mastery. Both Keller's Personalized System to Instruction (PSI) and Bloom's Mastery Learning required that students achieve mastery of each sequential objective before continuing to the next level. The concepts presented in these movements provide the core to the movement today which we call competency-based education.

Defining Competency-Based Vocational Education

In the previous section, an attempt was made to outline certain of the major breakthroughs in education that led to the development of CBE. Although based on the concepts outlined, there is no single definition of CBE in general use. The definitions being used are as diverse as the individuals and programs attempting to implement CBE. Spady (1977) talks of this lack of a uniform definition:

...like most self-respecting fads in American Education over the past few decades, this CBE bandwagon cannot be accused of having put its conceptual house in order before launching on its uncharted parade route and accumulating a vast and lively following. Aside from universal beliefs in the desirability of school system accountability and student "competency", the adherents and practitioners...are marching (or parading) in different uniforms to different drummers playing different tunes.

Spady (1977, p. 10) goes on to provide his prescriptive definition to CBE:

A data-based, adaptive, performance-oriented set of integrated processes that facilitate, measure, record and certify within the content of flexible time parameters the demonstration of known, explicitly stated and agreed upon learning outcomes that reflect unsuccessful functioning in life roles.

Many other definitions attempt to get at the operational issues of CBVE. The Florida Department of State Manual, "Delivering Competency-Based Vocational Education" (1976) defines CBVE as being based on the following assumptions:

1. The skills and knowledge that students should be directly related to the duties and responsibilities they will have to perform on the job.
2. These skills and areas of knowledge, and the means for evaluating their attainment, should be specified in advance and made known to the students.
3. Students should be provided with whatever instructional experiences they need to attain the skills and knowledge required by the job.

Distinguishing Features of CBVE Programs

Competency based vocational education may be distinguished from traditional systems of instruction by several factors. A look first at a traditional system, such as that done by Knaak (1977, pp 1-2), provides the following format:

1. A determination is made about a subject or skill that a group of students should learn.
2. Instruction on that subject or skill is presented to the group of students, usually in the form of lectures, demonstrations, audio visual presentation, readings. Instruction and learning time is usually the same for all students unless it is a reading assignment, which students can perform outside of class.
3. Finally, a test is given to all the students. They are usually graded, A, B, C, D, or F according to how their test scores deviate from the norm (average score). An individual student's grade is usually based on comparison of his/her score with the scores of the other students.... The level of achievement required for an A or B grade is often not known to the student before the test results are available. About 25 percent (As and Bs) can ordinarily be regarded as having achieved "mastery" of the content under

this system. The remaining 75 percent have achieved less than mastery and may not have learned critical knowledge or skills necessary for success in the next unit of learning.

Many times the decisions regarding course content are made solely by the instructor with no input from people within the trade area. The curriculum was developed to treat the class as a whole, not taking into consideration individual differences in learning styles or ability. Students seeking employment after completing the program take with them the credentials of having achieved an "A" or "B" in their educational courses. This bit of information does not convey to the employers the abilities or knowledge of the students.

A different format is presented when describing the characteristics of a CBVE program. The following paragraphs as stated by Richter (1978, pp 4-6) present the characteristics of a CBVE program. It should be noted that a program need not have all the characteristics presented, but may have modifications of them.

1. Course content is based upon actual worker's tasks which are measurable. Competencies to be learned by the students are determined in advance of instruction through a job or task analysis. The job analysis focuses upon the job duties and tasks involved in work activity. The purpose of a job analysis is to find out what workers are doing on the job.
2. Student performance objectives are specified in advance of instruction. Job competencies are expressed in terms of student performance objectives. Performance objectives focus on student outcomes or what the individual will be able to do upon successful completion of instruction. A performance objective consists of three components: (1) a student's performance or behavior stated in observable and measurable terms; (2) a description of the conditions and limitations under which the student is expected to perform a task; and (3) a

precise description of the acceptable performance standard or criterion. Students are made aware of the objectives they must achieve which eliminates guesswork for both students and teacher.

3. Student achievement is based upon demonstrated competency. Performance of skills is of prime importance in CBVE. Emphasis is placed on the development of minimal levels of competency by all or many students, thus promoting the acquisition of marketable job skills. However, opportunities should be provided for and students encouraged to develop their abilities beyond the minimal performance standard so that individual abilities can be developed to their fullest.
4. Instruction is individualized. Opportunity is provided for differences among students with respect to the objectives they pursue at a given time, the mode or methods of instruction, and the materials used for learning. Instruction can be self-paced, with the student having some choice in the selection of objectives and learning activities under the guidance of the teacher. Learning activities may involve the use of student competency sheets, learning activity packages, group projects, independent study, on-the-job training, and simulations.
5. The student and teacher are more accountable for performance of competencies. The student, as well as the teacher, can be more accountable for his or her performance in a CBVE program as compared with a traditional program. The individual knows what he or she is expected to demonstrate and must accept the responsibility, along with the teacher, for meeting the identified performance standards. In doing so, the student is encouraged to assume more responsibility for the instructional process since the completion of the program is dependent on the demonstration of specified competencies.
6. Learning is guided by feedback. Feedback plays an important part in a CBVE program. Frequent or immediate feedback is provided to the student. The student's progress is monitored closely in relation to the stated objectives in order to provide reinforcement and motivation for learning, in addition to diagnosing any student deficiencies so that remedial instruction can be provided.

7. Learning time is flexible. Time may vary among students to accomplish the objectives. Thus, slower students are permitted to take enough time, and faster ones can proceed to advanced units.
8. An open entry/open exit program is possible. The concept of an open entry/open exit program is possible in CBVE. When a student has achieved the required competencies, the individual should receive credit for the work and move on to advanced training or the job market. Many entry and exit points throughout the training program may exist, reflecting different job and skill levels within an occupation. The concept of an open entry/open exit, however, is difficult to handle administratively due to the present scheduling in today's schools.
9. Criterion-referenced measurement is employed to evaluate the attainment of the performance objectives. A criterion-reference test (CRT) or measure is one that is constructed to yield measurements which are directly interpretable in terms of specified performance standards. A student is evaluated according to predetermined performance standards rather than by a comparison with other students. A CRT is performance-oriented; that is, it measures if an individual can perform a job task or work sample under controlled conditions. This type of performance test usually, but not always, involves the manipulation of equipment, materials, and objects. Since every student progresses as an individual, failure or pressure is minimized.
10. The teacher is a manager and facilitator of instruction. The teacher's and student's roles in a CBVE program are different than in a traditional program. The teacher is more of a manager, facilitator, and motivator in the instructional process. The teacher and student actually become more involved with the teacher-learning process.

The promoters of CBVE state that incorporating the characteristics stated above into an educational system will net many benefits. Hirst (1977, p. 35) suggests some of the positive effects of such a program:

- A direct and positive linkage of what is taught and performed in your institutional programs with what is required on the job.

- A success-oriented atmosphere for learning, where success is measured by job-derived standards as opposed to competitive performance among students.
- A new approach to vocational education where learning becomes the primary reason for instruction and time frame becomes less important.
- A more professional approach to teaching, with positive feedback on the teacher's performance and materials used.
- The development of successful performers who take on more responsibility for their own learning.

Additional benefits, as stated by Ingram (1980, p. 47) include:

- Students are more likely to master content.
- Students master prerequisite material before advancing to new material and can receive credit for competencies previously mastered.
- Students know exactly what to expect.
- Students have more personal contact with the instructor.

CBVE is not viewed by all in education as being as positive as presented above. The next section of this paper will examine some of the questions raised regarding CBVE, and the responses given these concerns.

Questions Raised Concerning CBVE

Many articles have been written regarding the concerns individuals have about CBVE. In a previous section, the concern regarding the lack of a uniform definition was mentioned. Spady (1977, p. 9) in referring to the lack of a definition goes on to state:

Basic definition, conceptual clarity, and analysis of the organizational and social implications of various CBE approaches are badly needed.

Burke, Hansen, Houston and Johnson (nd p. 2) further develop a concern regarding the definition of CBE:

Since the creation of the concept of competency based education it has had many interpretations of those definitions. In practice, a few educational institutions, have designed programs which reflect in both principle and practice the fundamental concept represented by the term competency based education. Others appear to have had superficial acquaintance with the concept. They seem to have selected a few related notions and by implementing them have felt the right to call their programs competency based.

There is no clear, uniform definition to competency based education.

The development of such a definition would greatly decrease the ambiguity which now exists between programs.

Proponents of CBVE state that it improves the relationship between programs and job requirements. This is accomplished by basing the competencies to be learned on a carefully executed job analysis. This adds a great deal of accountability to the program, but is not without a few areas of concern. The first of these has to do with the instructor's ability to keep up with everchanging educational materials, especially if the program is individualized. Polk (1982, p. 16) alludes to this problem:

While an instructor can make changes quickly and easily in lectures and other group procedures to update the course and take account of changing job requirements, the revision of CBVE materials is considerably more time consuming. Some instructors have found that when a new text is published or a new edition comes out, the effort to change the individualized materials to correspond with the new texts is overwhelming. If outdated texts are retained until modifications in the course material can be made, CBVE programs may get out of date more easily and stay out of date longer than do conventional vocational programs.

A second problem related to the linkage between job and program requirements is the tendency of CBVE programs to place less emphasis on

knowledge and understanding, relying instead on performance of specific tasks. The result is a student who is well prepared for a job as it now exists, but ill-equipped to adapt and learn with changes in job requirements. As Bell (1980, p. 14) points out, most learning is directed toward acquiring the basics to facilitate further learning. Unless CBVE programs incorporate competencies which cover broader knowledge and understanding in addition to the ability to perform specific tasks to criterion, students may find themselves unable to keep up on the job.

Sanders and Chism (1985, p. 23) also express the concern of not including problem solving competencies in CBVE programs to allow students mobility within jobs:

The time honored approach to vocational education can no longer suffice at a time when technologies are changing rapidly and job obsolescence is a recurring reality. Job and occupational mobility--often geographic mobility as well - are increasingly necessary to succeed in our society. Curriculum development based on analysis of jobs that may be redesigned, transformed or eliminated by new technology is plainly insufficient to the need. Vocational students must be educated in a different way in order to deal with the complexities of problem solving they will face in the real world.

A related concern is expressed by humanists who have criticized CBVE for focusing on accountability at the expense of flexibility.

Bell (1980, pp. 14-15) expresses these concerns:

Because of its simplistic view of education and its origin in the accountability movement, CBE emphasizes the outputs of the educational process and pays less attention to the process itself... The instructional process is an exceedingly complex operation. It entails a multitude of interrelated variables most of which are not controllable by the teacher.

Much is written regarding identification of specific job tasks to be included in CBVE programs. Another area, which is often overlooked, is the specification of affective work competencies (work attitudes, values, and habits). These are omitted due to the subjective nature of their evaluation, and the difficulty of stating this type of objective. Their importance, however, is stated by Kazanas (1978, p. 1).

To prepare today's vocational education graduates for successful employment, programs should provide a curriculum that will facilitate acquisition of desirable, affective work competencies as well as specific job skills and knowledge.

Everyone involved in CBVE, especially those doing the occupational analysis, must appreciate the limitations of specifying the occupational competencies. According to Bell (1980, pp 15-16) these limitations include:

1. The information is difficult to validate.
2. The sources of the data may not be current and may be unaware of the frontiers of knowledge.
3. They require a great deal of research activity and this tends to remove the setting of competencies from the teacher and places it in the hands of administrators and administrative accountants.
4. It takes enormous amounts of time, a great lag in up-dating the competencies, and involves much system inertia.

These limitations should certainly be addressed by those who intend to use occupational competencies in their curriculum. Once this has been incorporated, uneasiness may be experienced regarding the program because it is difficult, if not impossible, to include every competency required of a job. This is bound to happen and must, therefore, be viewed as another limitation to specifying competencies.

Evaluation methods used in CBVE programs have several major advantages over conventional letter grading systems. In a CBVE program, student's records are kept in terms of the competencies they have mastered. Several forms for reporting the data have been established, some which simply state the competencies which have been mastered, and others that rate students on a scale ranging from awareness of a competency, to being able to complete a competency without supervision. These reporting methods are much more valuable to an employer who, instead of receiving information that a student received an "A or B" in a certain course, gets a listing of the competencies the student has progressed through.

This feature of CBVE, also has certain limitations which must be realized. The first of these is that of placing the teacher in the position of guarantor of occupational competencies. This factor, as stated by Bell (1980, p 17):

...may place the teacher in the very uncomfortable and legally indefensible position of guarantor of occupational competencies. Occupational competencies are much more complex than apparently appreciated by CBE advocates, and almost none of the components of occupational competencies are controllable by the teacher.

This is further complicated by the realization that many of the competencies verified by the instructor will be tasks performed only a limited number of times, often only once, and they are done under a controlled educational environment, not as a real job situation.

There are several major advantages to the evaluation systems used in CBVE. However, caution must be used in certifying the occupational

competencies of a program. The results of a carefully designed evaluation system will benefit students, teachers, and employers.

Student motivation in CBVE programs is a topic brought out in much of the literature. In a CBVE program students are provided with clear statements of program objectives in advance of instruction. A clear connection is made between job, the competency objectives, instruction, and evaluation. This however may not be the case for all students, as reported by Polk (1982, 17):

Despite this theoretical motivating force, one of the most uniform statements made by faculty involved in CBVE programs is, "It's great for the well-motivated student." In other words, because students must take substantial responsibility for their own learning, success depends heavily upon student motivation. Unfortunately, not all students are highly motivated and the motivation provided by clear knowledge of the interrelationships among objectives, instruction and evaluation does not counterbalance the responsibility placed on students by the system.

The same types of conclusions were drawn by Mussnug and Craig (1983) in the evaluation of a competency based drafting program:

Analysis of the post-test scores supported the interpretation that good students appeared to do well regardless of the teaching methods used, whereas CBVE may have its most pronounced effects in lower ability students. The CBVE students displayed significantly higher achievement on the drafting post-test. The on and below the median group appeared to benefit most from the CBVE instruction. CBVE instruction appeared to have best addressed the correct line weights and visualization skills required to solve drafting problems.

Competency based vocational education has many advantages over a more traditional type program. There are, however, concerns being raised regarding certain of its functions. A few of these have been presented in this section of the paper, there are more. Individuals

intent on implementing a CBVE program would be well advised to heed these concerns to insure their programs are as well founded as possible.

Evaluation of CBVE Programs

Despite the massive amount of literature which stands behind CBVE, and the claims made for it, evaluations of the approach are scarce (Polk, 1982). This is further emphasized by Buttram, et.a., (1985):

In spite of strong support for CBVE, there was little evidence to support the positive impacts of CBVE on students. Most respondents believed that CBVE offered instructional advantages but no empirical documentation was uncovered by the present study.

Most evaluation studies of CBVE try to determine the extent to which the program is competency-based. This is complicated by the various interpretations of the definition of CBVE. The result is studies with findings that are misleading because of these misunderstandings and lack of consensus.

The evaluation reports found, vary in their findings. Grant, Elbow, Evans, Gamson, Kohli, Neuman, Oleson, and Riesman (1979) indicated there was no evidence that students completing CBVE programs were more competent or employable than similar students completing traditional programs. The major problem with the Grant, et.al. study was the lack of conclusive data. On the other hand, Vincent and Cobb (1977) found evidence of the superiority of the CBVE approach in Kentucky of cognitive skills and occupational skills. They also found CBVE to be a cost-effective approach. Other studies, including the

Washington, D. C. Public Schools (1980); Raphaelson, Charters, and Wachtman (1976); and Poorman and Flickenstein (1978) also found positive effects in their evaluation studies of CBVE.

In a study by Appel, Allan, and Schriber (1979) the attitudes of vocational instructors and administrators was included in their summary:

Seventy-eight percent of the vocational instructors and 80% of the administrators categorized their attitude toward performance based vocational education (PBVE) as positive or very positive. Over 75% of the administrators indicated that the vocational instructors in their schools have positive to very positive attitudes toward PBVE.

Regarding evaluation methodology, Porter (1982) indicated that traditional evaluation procedures are appropriate in assessing CBVE programs, but pointed out the unique problems due to the lack of consensus regarding definitions and the necessary emphasis on the assessment of student competencies. She emphasized the major challenges as being able to eliminate ambiguity of terms and to assure the consistency of criteria. She also suggests that intensive site visits to CBVE programs are the only way to meet these challenges.

Summary

In summary, competency-based education seems to be growing in popularity. As stated by Buttram et.al. (1978):

With increasing public demand for accountability and excellence in public education, one would predict that CBVE will maintain a prominent role in vocational education for years to come.

Evaluating CBVE programs to determine their strengths and weaknesses will assure that the quality of programs being presented will continue to improve.

CHAPTER III
RESEARCH DESIGN, METHODOLOGY, AND PROCEDURES

Introduction

Chapter three will deal with describing the research methodology used in the project. The sample population used in assessing the perceptions of instructors and administrators toward CBVE will be described, as well as a description of the instrumentation, research design, and data collection techniques utilized.

Description of the Samples

There are 27 regional vocational high schools in the state of Massachusetts. These schools provided the samples to be used in completing the survey instruments for this study. Since there are two survey instruments, each requiring a different population, samples drawn from the population are described separately.

An administrative survey was sent to the Superintendent-Director of each of the 27 regional vocational high schools. The Superintendent-Director is the chief administrator of the school, supported by varying types of assistant administrators. Some of the schools have several assistant administrators, while other smaller schools have only a single administrator. For this reason, a cover letter accompanying the administrator survey asked the Superintendent-Director to fill out the survey, or pass it along to the assistant

administrator in charge of curriculum matters. This has been done in hopes of getting the administrator most involved with CBVE to complete the survey.

The teacher survey was sent to 20 teachers identified by the State educational agency as using the developed CBVE curriculum guide in their programs. Due to the relatively short period of time CBVE has been used in Massachusetts, and the amount of time required to develop and disseminate the curriculum guide, there are only a few schools using the curriculum guides in each program.

There are 21 identified program areas of vocational education that either have curriculum guides developed, or are in the process of development. In most cases, the schools identified as using the CBVE curricula are those schools involved with the development of the guide. Major dissemination and training efforts for developed curriculum guides is on-going.

Instrumentation

Two survey instruments were used in the study. These included a teacher questionnaire and an administrative questionnaire. The basic format and questions used in the survey instruments were developed by Vincent and Cobb for a study of CBVE in Kentucky (1977). The instruments consist of a series of statements utilizing the Likert scale technique. Respondents were asked to indicate the extent of their agreement or disagreement with each of the statements.

The original surveys used in Kentucky were edited for content and terminology differences. Additional questions were added in order to answer the research questions presented in this study. The instruments were reviewed by an official of the state educational agency for content validity. Previous tests on the instruments were reported by Vincent and Cobb (1977) relative to validation of the questionnaire.

All instruments were subjected to content and validity checks... Reliability tests on the teacher and administrative instruments were not conducted due to time and budgetary constraints.

Copies of the instruments employed in this study are included in Appendices A and B. Permission to use the Kentucky surveys as a basis for surveys developed for this study were granted by Robert A. Cobb. A copy of the letter granting that author's permission is included in Appendix C.

The instruments were mailed to the Superintendent-Directors of the 27 regional-vocational high schools and the 20 teachers identified for use in the study. A cover letter accompanied each survey explaining the study and the importance of a high return rate. Copies of the cover letters are included in Appendix D for the administrative survey, and Appendix E for the teacher survey.

An important aspect of the survey instruments was that they did not ask the participants to identify themselves. This was done to assure their anonymity and improve overall return rates of the surveys.

Research Design

This descriptive research study is a post-hoc assessment of the attitudes and perceptions of instructors and administrators. The design is that of two surveys used to ascertain individual interactions and reactions to the concept of CBVE as initiated in the State of Massachusetts.

In order to answer the research questions posed by the study, each instrument item was assigned to a specific research question:

QUESTIONNAIRE ITEMS RESPONDING TO THE RESEARCH QUESTIONS

- Related to Purpose 1-

1. To what extent do the schools accept the concept of CBVE?

Teacher Questionnaire: 43, 44, 45

Administrative Questionnaire: 8, 12, 18

2. What are the perceptions of administrators and teachers toward the quality of CBVE material being developed?

Teacher Questionnaire: 5, 11, 13, 14, 17, 21, 24,

Administrative Questionnaire: 14, 16, 21

3. Is vocational education more equitable for target populations as a result of CBVE?

Teacher Questionnaire: 40, 41

Administrative Questionnaire: 26, 27

- Related to Purpose 2 -

4. What are the attitudes of administrators, teachers toward the concept of CBVE as compared to a more traditional approach?

Teacher Questionnaire: 12, 19, 29, 38, 39, 40

Administrative Questionnaire: 1, 20, 29

5. What is the perceived effect of CBVE in terms of students' enthusiasm toward and satisfaction with the curriculum, the learning process, and vocational education in general?

Teacher Questionnaire: 4, 22, 23, 25, 26, 28, 32, 33, 34, 35,
36, 37

Administrative Questionnaire: 3, 7

6. What are the teachers' perceptions of the ease of implementing, continuing, and supporting CBVE programs.

Teacher Questionnaire: 1, 15, 16, 27, 30, 31

Administrative Questionnaire: 2, 5, 11, 13

7. What is the perceived impact of CBVE on day-to-day classroom management and student-teacher interaction?

Teacher Questionnaire: 2, 6, 20, 31, 42

Administrative Questionnaire: 6, 9, 19, 23, 24

- Regarding Purpose 3 -

8. To what extent is CBVE perceived as effective as a means to supplement or facilitate teacher effectiveness in the classroom and/or meet students' individual career needs?

Teacher Questionnaire: 7, 9, 10, 18, 40, 41

Administrative Questionnaire: 4, 15, 17, 22

9. Does CBVE enhance the accountability of the vocational education programs?

Teacher Questionnaire: 3, 8

Administrative Questionnaire: 10, 25, 28

Data Collection

The cover letter attached to the surveys asked the participants to mail returns in the self-addressed, stamped envelope included with the instrument. Two weeks after the instruments were sent out, a telephone follow-up was conducted to those who had not responded. Contacting administrators proved more successful than reaching teachers, due to the class schedules of teachers. Those individuals not contacted directly were left messages as a reminder to complete the survey and make the returns.

Data Analysis

Raw data for this study was gathered utilizing two survey instruments. Each instrument consists of a list of Likert-like statements. Respondents were asked to check a response for each statement ranking from "Strongly Agree" to "Strongly Disagree". There was also a "No Opinion" category provided in the middle. When this data was entered into the computer for analysis, the following values were attached: Strongly Agree - 5; Agree - 4; No Opinion - 3; Disagree - 2; Strongly Disagree - 1.

The computer program employed to analyze the data was SPSS-X. The computer print-out included all the basic statistics included in the program. Because of the design of the study, no sophisticated statistical analyses were necessary or desirable. Frequency distribution, percents, and weighted scores were utilized for the description of the results of the study.

The first description of the data is a listing of the survey instrument statements, followed by the percentage of response for each category (Strongly Agree through Strongly Disagree). The mean and mode responses for each survey statement is presented.

The second analysis looks at the survey statements assigned to each of the research questions. These are separated by those statements from the administrator survey related to a particular research question, and those items from the teacher instrument associated with the research question. This is done to better understand the response to the question from the two groups.

This analysis of the data collected from surveys provides information on the attitude and perceptions of teachers and administrators toward various aspects of CBVE. Upon completion of the analysis of data collected via survey instruments, answers are provided to the research questions posed for this study.

CHAPTER IV

PRESENTATION AND INTERPRETATION OF DATA

The purpose of this chapter is to report study results. Data are presented in two sequential steps. First, an item by item analysis of the responses to the two survey instruments utilized in the study is offered, followed by a presentation of data which addresses questions posed in Chapter I. Information gathered has been reported in narrative and tabular forms as is appropriate to describe results obtained.

Data Collected from the Two Survey Instruments

Two survey instruments were utilized in this study. A teacher questionnaire was sent to 20 teachers identified by the State Education Agency as using CBVE materials in their classes, and an administrative questionnaire was sent to the Superintendent-Director of the 27 regional vocational high schools in the State of Massachusetts.

The two instruments were mailed to the teachers and administrators along with a cover letter dated May 8, 1986. After a two-week period of collecting returns, a telephone follow-up was conducted to those who had not made returns. A copy of the administrator instrument is included in Appendix A, the student instrument is included in Appendix B. Copies of the cover letters are included in Appendices C and D.

There were twenty vocational teachers identified by the State education agency as utilizing CBVE materials in their class. The

return rate of the teacher survey was 95%, with a return of 19 of the 20 survey forms. The one teacher who did not return the survey was found, by the telephone follow-up, to be on maternity leave. All teachers who returned the survey instruments filled out the entire document.

The administrator survey was sent to the Superintendent-Directors of the 27 regional vocational high schools in the State of Massachusetts. Of the 27 surveys sent out, 25 were returned, representing a 93% return rate. Examination of the 25 returned surveys revealed that 20 administrators had filled out the instrument. Four returns were not filled out; however, they included letters explaining their schools' stand regarding CBVE. Only one survey was returned with no responses given to the questions.

At the beginning of the administrator survey, there was a question asking if CBVE had been adopted by one or more teachers in their school. Of the 25 surveys returned, 16 or 64% indicated that CBVE was being used in their schools. Two additional returns indicated that CBVE materials were being considered for future use. These figures indicate considerable use of CBVE materials throughout the Commonwealth.

Results obtained from the surveys are presented in Table 1 for the administrator survey and Table 2 for the teacher survey. Statements contained in each instrument are listed along with the frequency of response in the tables. To obtain a more accurate description of those responding as "agreeing" or "disagreeing" with a statement, two

additional columns were included in the table. One provides the sum of those who responded as "agree" and "strongly agree", the other totals those as responding to the statements by "disagree" and "strongly disagree". Those responding to the survey questions with "no opinion" are also included in the tables.

TABLE 1

TOTAL ADMINISTRATOR QUESTIONNAIRE ADJUSTED PERCENT RESPONSE

(N = 20)

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
1. Teacher support for CBVE in our school is strong.	--	35	20	40	5	35	45
2. The CBVE process and learning guides fit into our typical school year.	15	55	10	15	5	70	20
3. CBVE discourages student enrollment in our Vocational Education Programs which emphasize the use of the process.	--	--	25	35	40	--	75
4. Programs using the CBVE process could accommodate increased enrollment.	5	25	20	50	--	30	50
5. Teachers have adequate time to keep records on their students who are using the CBVE individualized process.	5	35	15	35	10	40	45
6. There are too many "administrative problems" associated with CBVE.	--	20	15	50	15	20	65
7. The drop-out rate for vocational students in programs using the CBVE process has decreased since its implementation.	--	10	70	20	--	10	20
8. CBVE is another educational fad and will be replaced by another system within the next few years.	--	10	20	50	20	10	70

TABLE 1 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
9. Our teachers report that classroom management is difficult when students are using CBVE.	-	30	20	50	-	30	50
10. CBVE is more "cost effective" than traditional methods of instruction.	-	15	30	55	-	15	55
11. Facilities at our school are appropriate for CBVE instruction.	15	60	15	10	-	75	10
12. There is no major difference in CBVE teaching methodology and the teaching methodology used by our teachers before CBVE was implemented.	-	20	25	45	10	20	55
13. CBVE evaluation is compatible with the traditional grading system used in our school.	-	55	15	25	5	55	30
14. The inservice workshop, which introduces CBVE, does an adequate job.	5	50	25	20	-	55	20
15. The ease of using CBVE instruction hampers further curriculum development by teachers.	5	10	5	70	10	15	80
16. The CVBE Instructor's Manuals provide helpful resource material and ideas for teachers.	10	70	20	-	-	80	-
17. CBVE increases teachers' effectiveness.	30	30	20	20	-	60	20

TABLE 1 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
18. Teachers in my school have expressed satisfaction with CBVE.	-	60	20	15	5	60	20
19. I spend much time locating materials and answering teacher's questions regarding the implementation of CBVE.	-	10	30	50	10	10	60
20. CBVE requires more administrative resources than other methods of instruction.	5	20	25	45	5	25	50
21. CBVE learning guides and resource materials are easily obtained for our Vocational Education Program.	-	65	-	30	5	65	35
22. The learning guides and performance objectives provided for specific CBVE curricula meet the needs of the students in our Vocational Education Program.	5	70	10	15	-	75	15
23. Designing our vocational education program around the CBVE concept is difficult.	10	15	15	60	-	25	60
24. Students seem to progress at a faster rate since CBVE was implemented.	-	30	60	10	-	30	10
25. CBVE does not offer students the levels of proficiency required by job entry standards in our community.	-	15	20	40	25	15	65

TABLE 1 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
26. CBVE makes it easier to serve target populations such as special needs and non-traditional students.	20	25	10	15	-	75	15
27. Instruction is more individualized in programs using the CBVE process.	50	45	-	5	-	95	5
28. The teaching of specific vocational concepts is more efficient using CBVE.	25	45	10	20	-	70	20

TABLE 2

TOTAL TEACHER QUESTIONNAIRE ADJUSTED PERCENT RESPONSE

(N = 19)

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
1. Transition from one learning guide to the next learning guide is difficult for students.	-	5.3	5.3	42.1	47.4	5.3	89.5
2. Classroom management is difficult when students are using learning guides.	5.3	15.8	5.3	47.4	26.3	21.3	73.7
3. I have major problems assigning grades to my CBVE students.	-	10.5	5.3	52.6	31.6	10.5	84.2
4. CBVE allows my students to do more "independent investigations" than my previous method of instruction.	10.5	36.8	23.3	26.3	-	47.3	26.3
5. I feel uncomfortable using the CBVE materials.	10.5	5.3	5.3	52.6	26.3	15.8	78.9
6. CBVE restricts my freedom in the classroom.	-	5.3	21.1	21.1	52.6	5.3	73.7
7. CBVE allows me to keep up to date in my occupational area.	21.1	31.6	21.1	26.3	-	52.7	26.3
8. I am unable to diagnose learning difficulties using the CBVE learning guides.	-	-	15.3	47.4	26.8	-	84.2
9. The CBVE objectives of the State prepared guides are "in tune" with my local job training needs.	21.1	52.6	5.3	21.1	-	73.7	21.1

TABLE 2 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
10. CBVE improves overall teacher effectiveness.	-	31.6	21.1	26.3	5.3	31.6	31.6
11. CBVE reference and resource materials are available to me.	36.3	47.4	10.5	5.3	10.5	83.7	15.8
12. Administrative support for CBVE is strong.	26.3	52.6	10.5	10.5	-	78.9	10.5
13. CBVE is a fad and will be replaced by another system within the next few years.	-	21.1	26.3	26.3	26.3	21.1	52.6
14. The teachers inservice workshop, which introduces CBVE, does an adequate job.	5.3	47.4	21.1	21.1	5.3	52.7	26.4
15. The CBVE process and learning guides fit into our typical school year.	21.1	52.6	5.3	15.8	5.3	73.7	21.1
16. I have adequate time to evaluate the progress of all students in my class who are using the CBVE individualized processes.	10.5	57.9	10.5	21.1	-	68.4	21.1
17. I often refer to the Instructor's Manual for resource materials and ideas.	15.8	47.4	15.8	15.8	5.3	63.2	21.1
18. Using CBVE learning guides requires more organizational time than do other methods of instruction.	15.8	10.5	10.5	57.9	5.3	26.3	53.2

TABLE 2 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
19. There is no major difference in CBVE teaching methodology and the teaching methodology I used before I implemented CBVE.	-	15.8	26.3	47.4	10.5	18.8	57.9
20. CBVE evaluation is difficult to translate into traditional grading systems.	5.3	15.3	5.3	63.2	10.5	21.1	73.7
21. The organization of the Instructor's Manual needs to be simplified.	-	10.5	52.6	36.8	-	10.5	36.8
22. Students are better motivated by the CBVE learning guides than with my previous instructional methods.	10.5	47.4	21.1	15.8	5.3	57.9	5.3
23. Students seem more "task oriented" using CBVE learning guides.	21.1	57.9	15.8	5.3	-	79.0	5.3
24. The reading level of the learning guides is too difficult for my students' abilities.	10.5	5.3	15.8	47.4	21.1	15.8	68.5
25. My introduction of the CBVE learning guides concept has kept students in school who may have dropped out of a traditional program.	5.3	5.3	63.2	26.3	-	10.6	26.3
26. Most students <u>dislike</u> the CBVE approach.	-	15.8	21.1	57.9	5.3	15.8	63.2
27. Facilities at my school are appropriate for CBVE instruction.	15.8	63.2	15.8	-	5.3	79.0	5.3

TABLE 2 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
28. Using the CBVE process makes it possible for me to teach more students in my vocational program.	5.3	42.1	10.5	31.6	10.5	47.4	42.1
29. I do not like to teach under the Competency Based Vocational Education process.	-	21.1	15.8	31.6	31.6	21.1	63.2
30. Teaching techniques can be more creative with CBVE materials.	21.1	47.4	21.1	10.5	-	68.5	10.5
31. My audio visual equipment frequently breaks down when used by students participating in the CBVE process.	-	15.8	42.1	26.3	15.8	15.8	42.1
32. The students like the learning guide presentation better than the traditional forms of presenting material.	15.8	26.3	31.6	26.3	-	42.1	26.3
33. More students than ever before have expressed interest in taking my class since CBVE was implemented.	-	5.3	78.9	15.3	-	5.3	15.8
34. Students are not able to complete as much material with the CBVE learning guides as with traditional methods.	-	10.5	15.8	52.6	21.1	10.5	73.9
35. Student progress at a faster rate since I implemented CBVE.	21.1	26.3	36.8	15.3	-	47.4	15.3
36. The CBVE process does not challenge my top students.	10.5	10.5	10.5	36.8	31.6	21.0	68.4

TABLE 2 - Continued

Item	% SA	% A	% N	% D	% SD	% SA+A	% D+SD
37. My CBVE students are learning more subject matter than the students I have taught using traditional teaching methods.	21.1	15.8	36.8	21.1	-	36.9	21.1
38. Vocational administrators have a positive attitude toward CBVE.	21.1	42.1	21.1	10.8	-	63.2	10.5
39. Administrators encourage the use of CBVE.	31.6	42.1	10.5	10.5	-	73.7	10.5
40. I am more able to individualize instruction with CBVE than I was using traditional teaching strategies.	21.1	57.9	10.5	5.3	-	79.0	5.3
41. Using CBVE makes it easier to serve target populations such as special needs and non-traditional students.	15.8	36.8	26.3	15.8	-	52.6	15.8
42. I have time to keep adequate records and files on students who are using the CBVE individualized process.	10.5	47.4	10.5	26.3	-	57.9	26.3

Answering Research Questions

As was stated in Chapter III, in order to answer the research questions of the study, each was assigned individual questionnaire items from both the teacher and administrator surveys. To facilitate the analysis of the responses to these questions, each response was given a value from 1 to 5, based on the five possible responses. The value of 5 was given to the response which was most favorable to CBVE.

The reader should note that for some statements the favorable response, given the value of 5, was that of agreeing to the statement, for others the favorable response was given by disagreeing with the questionnaire statement. Therefore, there is a transformation in data form between Tables 1 and 2, and the remaining tables to reflect that juxtaposition of favorable responses.

For each of the research questions the presentation of data includes the mean and mode responses to the survey items designated to answer the research question. This is followed by a narrative which includes responses from those who sent letters along with their survey to indicate their particular stand on CBVE.

Research Question 1:

To what extent do the schools accept the concept of CBVE?

The survey items assigned to this question are presented in Tables 3, 4, and 5 with their respective responses. Teacher's responses are indicated below:

TABLE 3
Teacher Questionnaire Responses Related To
Research Question 1

Item No.	Statement	Mean Response	Modal Response
43	*How would you categorize your attitude toward utilization of CBVE in your classroom?	4.947	5.000
44	To what extent are you currently utilizing CBVE in your classroom?	3.316	4.000

*Based on a scale of 1-6

It must be noted that the responses to the teacher survey item 43 are based on six choices ranging from "very positive" with a value of 6 to "I do not know what CBVE is" which had a value of 1. Also, item 44 uses response choices differing from the remainder of the questionnaire items. On this item choices ranged from "to a very great extent" which was given a value of 5 to "not at all" which was assigned a value of 1.

Teachers responding to the survey revealed a positive attitude toward CBVE with 73.7% answering with either a positive (47.4%) or very positive (26.3%) attitude. CBVE is being utilized in the vocational classrooms by those teachers completing the survey as indicated by responses to item 44 where 73.8% specified that they were using CBVE materials to at least a moderate extent.

Table 4 identifies which subject areas were represented by teachers completing the survey. Three teachers specified the "other"

category. A look at these responses indicates a difference in terminology for specifying subject areas in different schools.

TABLE 4
Teachers Responding As To
Their Subject Area

Auto Mechanics	2
Computer Technology	3
Electrical Technology	1
General Merchandising	3
Hotel and Lodging	2
Medical Assistant	1
Food Service, Management and Production	2
Child Care	2
Other	3

Administrator replies to the extent that schools accept the concept of CBVE are presented in the table below.

TABLE 5
Administrator Questionnaire Responses
Related To Research Question 1

Item No.	Statement	Mean Response	Modal Response
8	CBVE is another educational fad and will be replaced by another system within the next few years.	3.800	4.000
12	There is no major difference in CBVE teaching methodology and the teaching methodology used by our teachers before CBVE was implemented.	3.450	4.000
18	Teachers in my school have expressed satisfaction with CBVE.	3.350	4.000

Any change which is introduced to the educational community is viewed with the skepticism that it will be only short lived. This does not appear to be the feeling of the administrators surveyed, as 14 of the 20 responding disagreed with the statement concerning CBVE being an educational fad soon to be replaced. They also revealed an indication that CBVE is a different type of teaching methodology than was previously being utilized by teachers. Very few administrators indicated that their teachers were unsatisfied with CBVE. These responses suggest that schools are accepting the concept of CBVE into their vocational programs.

Research Question 2

What are the perceptions of administrators and teachers toward the quality of CBVE materials being developed?

A great deal of effort has been expended during the initiative of the State Education Agency to develop quality CBVE materials. This has engulfed many hours of reviewing existing materials, editing and developing new materials for use in Massachusetts vocational education programs. Responses to questions related to this research question will provide feedback to those involved in developing materials as to the results of their efforts.

TABLE 6
Teacher Questionnaire Mean/Mode Responses
Related To Research Question 2

Item No.	Statement	Mean Response	Modal Response
5	I feel uncomfortable using the CBVE materials.	3.789	4.000
11	CBVE reference and resource materials are available to me.	3.737	4.000
13	CBVE is a fad and will be replaced by another system within the next few years.	3.579	3.000
14	The teachers' inservice workshop, which introduces CBVE, does an adequate job.	3.263	4.000
17	I often refer to the Instructor's Manual for resource materials and ideas.	3.526	4.000
21	The organization of the Instructor's Manual needs to be simplified.	3.263	3.000
24	The reading level of the learning guides is too difficult for my students' guides abilities.	3.632	4.000

Teachers indicated a general satisfaction with the materials that have been developed and their availability. Of particular note is an indication by 63.2% that they often refer to the Instructor's Manual for resource materials and ideas.

Administrators surveyed feel that the CBVE Instructor's Manual does provide helpful resource material and ideas for their teachers as indicated by the 80% agreement with statement 16 on the survey. Data

obtained also reveals that administrators feel the inservice workshop introducing CBVE does an adequate job.

TABLE 7
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 2

Item No.	Statement	Mean Response	Modal Response
14	The inservice workshop, which introduces CBVE, does an adequate job.	3.400	4.000
16	The CBVE Instructor's Manual provides helpful resource material and ideas for teachers.	3.900	4.000
21	CBVE learning guides and resource materials are easily obtained for our Vocational Education Program.	3.250	4.000

Responses to questions relating to the quality of CBVE materials were generally favorable and should act as reinforcement to those involved in the development process.

Research Question 3

Is vocational education more equitable for target populations as a result of CBVE?

One of the factors prompting the initiation of CBVE in Massachusetts was that utilizing this teaching methodology would make vocational offerings more equitable for such populations as the handicapped. It appears from the data collected that this has been the case. Both teachers and administrators have specified that it is easier to serve target populations using CBVE methodologies.

TABLE 8
Teacher Questionnaire Mean/Mode Responses
Related To Research Question 3

Item No.	Statement	Mean Response	Modal Response
40	I am more able to individualize instruction with CBVE than I was using traditional teaching strategies.	3.789	4.000
41	Using CBVE makes it easier to serve target populations such as special needs and non-traditional students.	3.368	4.000

Teachers indicated by a 79% response that they are more able to individualize instruction with CBVE than a more traditional teaching strategy. This is reinforced by 95% of the administrators denoting that instruction is more individualized in programs using the CBVE process. The data strongly supports the use of CBVE in vocational education programs to better meet the needs of target populations.

TABLE 9
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 3

Item No.	Statement	Mean Response	Modal Response
26	CBVE makes it easier to serve target populations such as special needs and non-traditional students.	3.800	4.000
27	Instruction is more individualized in programs using the CBVE process.	4.400	5.000

Research Question 4

What are the attitudes of administrators and teachers toward the concept of CBVE compared to a more traditional approach?

The teacher questionnaire items designed to answer this research question ask two types of questions. The first deals with how they feel about the administrative support for CBVE, the second compares CBVE to a more traditional methodology.

TABLE 10
Teacher Questionnaire Mean/Mode Responses Related
To Research Question 4

Item No.	Statement	Mean Response	Modal Response
12	Administrative support for CBVE is strong.	3.947	4.000
19	There is no major difference in CBVE teaching methodology and the teaching methodology I used before I implemented CBVE.	3.526	4.000
29	I do not like to teach under the Competency Based Vocational Education process.	3.787	4.000
38	Vocational administrators have a positive attitude toward CBVE.	3.570	4.000
39	Administrators encourage the use of CBVE.	3.789	4.000
40	I am more able to individualize instruction with CBVE than I was using traditional teaching strategies.	3.789	4.000

Teachers report that administrators in their schools are supportive of the use of CBVE. A very small percentage (10.5%) revealed what they considered a lack of administrative support.

The question asking if there was a difference between the CBVE teaching methodology and the methodology used prior to the introduction of CBVE revealed that 57.9% felt there was a difference. One of the possible differences is disclosed in questions such as item 40, which dealt with the teacher's ability to better individualize instruction. This particular item indicated that 79% of the teachers were more able to individualize their instruction using CBVE materials and methodology.

Administrators, on the other hand, did not feel that teacher support for CBVE in their school was strong. Results indicate that while 35% felt teacher support was strong, another 45% felt support was not very strong. There were 20% with "no opinion" to this item.

TABLE 11
Administrative Questionnaire Mean/Mode Responses
Related To Research Question 4

Item No.	Statement	Mean Response	Modal Response
1	Teacher support for CBVE in our school is strong.	2.850	2.000
20	CBVE requires more administrative resources than other methods of instruction.	3.250	4.000
29	How would you categorize your attitude toward the utilization of CBVE in your school?	3.950	4.000

Item 29 on the administrator survey indicates an overall favorable attitude by administrators toward the use of CBVE in their schools. 75% indicated a positive attitude, with only one response (5%) being negative. There were 20% who indicated they were neutral on the issue.

Research Question 5

What is the perceived effect of CBVE in terms of student's enthusiasm toward and satisfaction with the curriculum, the learning process, and vocational education in general?

Several items on the teacher survey were included to ascertain how students responded to the initiation of CBVE methodologies in their classes.

These items and their corresponding responses are included in Table 12.

Data obtained reveals that, generally, teachers perceive students as being satisfied with classes utilizing CBVE materials. It is interesting to note that "no opinion" is the modal response when asked if CBVE is perceived as better than a more traditional approach. Such questions as those dealing with rate of progress, keeping students in school, and amount of subject matter learned, all received a modal response in the "no opinion" category. This can at least partially be attributed to the short duration of time CBVE has been utilized in the vocational classrooms in Massachusetts.

The same pattern of response was found with the administrator survey where 70% gave "no opinion" to item 7 on the survey dealing with CBVE and the drop-out rate.

Table 12

Teacher Questionnaire Mean/Mode Responses
Related To Research Question 5

Item No.	Statement	Mean Response	Modal Response
4	CBVE allows my students to do more independent investigations" than my previous method of instruction.	3.316	4.000
22	Students are better motivated by the CBVE learning guides than my previous instructional methods.	3.421	4.000
23	Students seem more "task oriented" using CBVE learning guides.	3.947	4.000
25	My introduction of the CBVE learning guides concept has kept students in school who may have dropped out of a traditional program.	2.895	3.000
26	Most students <u>dislike</u> the CBVE approach.	3.526	4.000
28	Using the CBVE process makes it possible for me to teach more students in my vocational program.	3.000	4.000
32	The students like the learning guide presentation better than the traditional forms of presenting material.	3.316	3.000
33	More students than ever before have expressed interest in taking my class since CBVE was implemented.	2.895	3.000

Table 12 continued

Item No.	Statement	Mean Response	Modal Response
34	Students are not able to complete as much material with the CBVE learning guides as with traditional methods.	3.842	4.000
35	Students progress at a faster rate since I implemented CBVE.	3.526	3.000
36	The CBVE process does not challenge my top students.	3.684	4.000
37	My CBVE students are learning more subject matter than the students I have taught using traditional teaching methods.	3.211	3.000

TABLE 13
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 5

Item No.	Statement	Mean Response	Modal Response
3	CBVE discourages student enrollment in our Vocational Education Programs which emphasize the use of the process.	4.150	5.000
7	The drop-out rate for vocational students in programs using the CBVE process has decreased since its implementation.	2.900	3.000

Administrators do not feel that CBVE discourages student enrollment as indicated by 75% disagreeing with statement 3 of their survey. It becomes obvious that a longer duration of time utilizing CBVE may be necessary in order to more fully answer this particular research question.

Research Question 6

What are the teachers' perceptions of the ease of implementing, containing, and supporting CBVE programs?

In the items related to this research question teachers were asked about items which have met with mixed feelings in the literature. Specifically, the issue of how the CBVE process fits into the school year was brought up. The result was that 73.7% of the teachers participating indicated that the CBVE process and learning guides fit into the typical school best. This is supported by a similar item on

the administrator survey. Here, 70% of the administrators felt CBVE would work within the typical school year.

Table 14
Teacher Questionnaire Mean/Mode Responses
Related To Research Question 6

Item No.	Statement	Mean Response	Modal Response
1	Transition from one learning guide to the next learning guide is difficult for students.	4.316	5.000
15	The CBVE process and learning guides fit into our typical school year.	3.684	4.000
16	I have adequate time to evaluate the progress of all students in my class who are using the CBVE individualized processes.	3.579	4.000
27	Facilities at my school are appropriate for CBVE instruction.	3.684	4.000
30	Teaching techniques can be more creative with CBVE materials.	3.789	4.000
31	My audio visual equipment frequently breaks down when used by students participating in the CBVE process.	3.421	3.000

The second issue brought out by these survey items deals with the amount of time a teacher has to evaluate the progress of individual students. The literature contains many sources indicating that a major drawback to utilizing the CBVE methodology is the lack of time available to evaluate students. In this survey, 68.4% of the teachers surveyed indicated they have adequate time for evaluation.

Administrators tended to be split on the issue, with 40% indicating agreement with the teachers that there was adequate evaluation time, while 45% did not feel there was enough. 15% of the administrators gave a "no opinion" response to this item.

Table 15
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 6

Item No.	Statement	Mean Response	Modal Response
2	The CBVE process and learning guides fit into our typical school year.	3.600	4.000
5	Teachers have adequate time to keep records on their students who are using the CBVE individualized process.	2.900	2.000
11	Facilities at our school are appropriate for CBVE instruction.	3.800	4.000
13	CBVE evaluation is compatible with the traditional grading system used in our school.	3.200	4.000

Both teachers and administrators felt that the facilities at their respective schools were appropriate for CBVE instruction.

Research Question 7

What is the perceived impact of CBVE on day-to-day classroom management and student-teacher interaction?

CBVE has a positive impact on day-to-day classroom management according to responses to the survey items. Of particular note were

the responses to a question as to whether or not using CBVE restricted the teachers freedom in the classroom. This was one of the few survey items having the modal response in the extreme category. Here teachers specified that they are not restricted in the classroom by CBVE.

Table 16
Teacher Questionnaire Mean/Mode Responses
Related To Research Question 7

Item No.	Statement	Mean Response	Modal Response
2	Classroom management is difficult when students are using learning guides.	3.737	4.000
6	CBVE restricts my freedom in the classroom.	4.211	5.000
20	CBVE evaluation is difficult to translate into traditional grading systems.	3.579	4.000
31	My audio visual equipment frequently breaks down when used by students participating in the CBVE process.	3.421	3.000
42	I have time to keep adequate records and files on students who are using the CBVE individualized process.	3.263	4.000

Also worth noting are the responses given to items dealing with translating the meeting of competencies into a more traditional grading system. This is also a point often brought out in the literature as being a weak feature of CBVE. On this survey 73.7% of the respondents did not feel the translation was difficult. Associated with this topic

were the responses to item 42 dealing with keeping adequate records on the students. A majority of responses (57.9%) indicated they have adequate time for record keeping.

Table 17
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 7

Item No.	Statement	Mean Response	Modal Response
6	There are too many "administrative problems" associated with CBVE.	3.600	4.000
9	Our teachers report that classroom management is difficult when students are using CBVE.	3.200	4.000
19	I spend much time locating materials and answering teacher's questions regarding the implementation of CBVE.	3.600	4.000
21	Designing our vocational education program around the CBVE concept is difficult.	3.250	4.000
24	Students seem to progress at a faster rate since CBVE was implemented.	3.200	3.000

Administrators perceive a positive impact of CBVE on classroom management as exhibited by the responses to the items in Table 17. For example, 65% feel there are not too many administrative problems associated with CBVE. If problems do exist, they did not surface during these survey items. Again, statements dealing with the rate of

students' progress through the use of CBVE receive a mode response of "no opinion."

Research Question 8

To what extent is CBVE perceived as effective as a means to supplement or facilitate teacher effectiveness in the classroom?

On the subject of teacher effectiveness, the teachers included in this study were divided about evenly between those that thought it improved effectiveness (31.6%) and those who disagreed with the statement (31.6%). There was a considerable (21.1%) response to the "no opinion" reply. Other statements in the survey assigned this research question dealt with specific areas of teacher effectiveness such as individualization of instruction, serving target populations, and keeping up-to-date in the respective occupational areas. In all cases the response came out to be on the positive inclination, particularly dealing with individualized instruction. Once again this is shown to be a major strength of CBVE.

Table 18
Teacher Questionnaire Mean/Mode Responses
Related To Research Question 8

Item No.	Statement	Mean Response	Modal Response
7	CBVE allows me to keep up-to-date in my occupational area.	3.474	4.000
9	The CBVE objectives of the State prepared guides are "in tune" with my local job training needs.	3.737	4.000
10	CBVE improves overall teacher effectiveness.	3.263	4.000
18	Using the CBVE learning guides requires more organizational time than do other methods of instruction.	3.263	4.000
40	I am more able to individualize instruction with CBVE than I was using traditional teaching strategies.	3.784	4.000
41	Using CBVE makes it easier to serve target populations such as special needs and non-traditional students.	3.368	4.000

Administrators were also asked to rate a statement dealing with overall teacher effectiveness. The results were somewhat different from the dividedness of the teachers. Sixty percent of the administrators felt CBVE increases teacher effectiveness, another 20% gave "no opinion" and only 20% disagreed with the statement.

Table 19
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 8

Item No.	Statement	Mean Response	Modal Response
4	Programs using the CBVE process could accommodate increased enrollment.	2.850	2.000
15	The ease of using CBVE instruction hampers further curriculum development by teachers.	3.700	4.000
17	CBVE increases teachers' effectiveness.	3.700	4.000
22	The learning guides and performance objectives provided for specific CBVE curricula meet the needs of the students in our Vocational Education Program.	3.650	4.000

An interesting response came from item 4 of the administrator survey. Here respondents disagreed with a statement proposing increased program enrollment using CBVE. Often times, teachers become uneasy about any type of educational change or reform, feeling it will increase enrollments, cut budgets, or change something they feel comfortable with. Such teachers should rest easy having acquired the results of this study.

Research Question 9

Does CBVE enhance the accountability of the vocational education programs?

Perceived by many in the literature as being one of the primary factors for initiating CBVE, the subject of increased accountability for programs had to be included in this study. There were three items assigned this research question from the teacher survey. They are identified in Table 20, along with the mean response and the most frequently given response.

Table 20
Teacher Question Mean/Mode Response
Related To Research Question 9

Item No.	Statement	Mean Response	Modal Response
3	I have major problems assigning grades to my CBVE students.	4.053	4.000
8	I am unable to diagnose learning difficulties using the CBVE learning guides.	4.211	4.000
9	The CBVE objectives of the State prepared guides are "in tune" with my local job training needs.	3.737	4.000

Closely aligned with accountability is the subject of cost effectiveness of the various programs. This has become a major concern of vocational education, where program costs, due to the machinery, equipment, and supplies needed, are very high. Item 10 of the administrator questionnaire asked about the cost effectiveness of instruction using CBVE compared to a more traditional approach. The results confirm that the CBVE methodology does not affect the overall cost effectiveness of the program.

Table 21
Administrator Questionnaire Mean/Mode Responses
Related To Research Question 9

Item No.	Statement	Mean Response	Modal Response
10	CBVE is more "cost effective" than traditional methods of instruction.	2.600	2.000
25	CBVE does not offer students the levels of proficiency required by job entry standards in our community.	3.750	4.000
28	The teaching of specific vocational concepts is more efficient using CBVE.	3.750	4.000

Item 28 from the administrator survey sought responses concerning the efficient presentation of specific vocational concepts. The results indicate that 70% of the administrators agree with the statement while only 20% disagree.

The topic of accountability also was the topic brought up by those who did not fill out the survey, but wrote notes or letters instead. One administrator felt that the most favorable aspects of CBVE was that of making sure specific concepts were being taught. The whole aspect of accountability was mentioned over and over again as one of CBVE's most powerful aspects.

Summary of Data Presented

Having presented the data obtained from the survey instruments, and isolated those items related to the research questions posed, certain items stand out as areas of strongest response. The next few tables present a summary of these findings.

Table 22 includes those items on the administrator survey which received the strongest positive response. To be included in this summary table, the item had to receive a favorable response by more than 75% of those completing the survey. For clarity the table contains a summary of the data described in previous tables.

TABLE 22

Items of Strongest Positive Response by Administrators

Item No.	Statement	(D+SD)	(SA+A)	Mean	Mode
3	CBVE discourages student enrollment in our Vocational Education Programs which emphasize the use of the process.	75%		4.150	5.000
11	Facilities at our school are appropriate for CBVE instruction.		75%	3.800	4.000
15	The ease of using CBVE instruction hampers further curriculum development by teachers.	80%		3.700	4.000
16	The CBVE Instructor's Manuals provide helpful resource material and ideas for teachers.		80%	3.9000	4.000
22	The learning guides and performance objectives provided for specific CBVE curricula meet the needs of the students in our Vocational Education Program.		75%	3.650	4.000
26	CBVE makes it easier to serve target population such as special needs and non-traditional students.		75%	3.8000	4.000
27	Instruction is more individualized in programs using the CBVE process.		95%	4.400	5.000

Summary information from the teacher survey is presented in Table 23. Like the administrator survey summary, items included in this table received a favorable response by more than 75% of the teachers responding.

TABLE 23

Items of Strongest Positive Response by Teachers

Item No.	Statement	(D+SD)	(SA+A)	Mean	Mode
1	Transition from one learning guide to the next learning guide is difficult for students.	89.5%		4.316	5.000
3	I have major problems assigning grades to my CBVE students.	84.2%		4.053	4.000
5	I feel uncomfortable using the CBVE materials.	78.9%		3.789	4.000
8	I am unable to diagnose learning difficulties using the CBVE learning guides.	84.2%		4.211	4.000
11	CBVE reference and resource materials are available to me.		83.7%	3.737	4.000
12	Administrative support for CBVE is strong.		78.9%	3.947	4.000
23	Students seem more "task oriented" using CBVE learning guides.		79%	3.947	4.000
27	Facilities at my school are appropriate for CBVE instruction.		79%	3.684	4.000
40	I am more able to individualize instruction with CBVE than I was using traditional teaching strategies.		79%	3.789	4.000

The previous tables described the strongest positive responses regarding CBVE. There were responses to a few items which were less favorable in nature. Items on the administrator survey following into this category are included in Table 24.

TABLE 24

Items of Weakest Response by Administrators

Item	% Response
1. Teacher support for CBVE in our school is strong.	D+SD - 45%
5. Teachers have adequate time to keep records on their students who are using the CBVE individualized process.	D+SD - 45%
10. CBVE is more "cost effective" than traditional methods of instruction.	D+SD - 55%

The data did not distinguish any items from the teacher survey which could be considered less than favorable. The overall positive nature of the responses carried throughout the survey.

There were, however, certain items which could be categorized receiving no response. The following table includes items from the two survey instruments which received a high "no opinion" response. The significant factor displayed by these items is the lack of comparative data between students in a traditional vocational classroom and one utilizing the CBVE process.

TABLE 25

Survey Items Receiving a High "No Opinion" Response

Item	% No Opinion
<u>Administrator Survey</u>	
7 The drop-out rate for vocational students in programs using the CBVE process has decreased since its implementation.	70
24 Students seem to progress at a faster rate since CBVE was implemented.	60
<u>Teacher Survey</u>	
25. My introduction of the CBVE learning guides concept has kept students in school who may have dropped out of a traditional program.	63.2
32. The students like the learning guide presentation better than the traditional forms of presenting material.	31.6
33. More students than ever before have expressed interest in taking my class since CBVE was implemented.	78.9
35. Students progress at a faster rate since I implemented CBVE.	36.8
37. My CBVE students are learning more subject matter than the students I have taught using traditional teaching methods.	36.8

The data having been presented, the following chapter discusses conclusions and recommendations reached as a result of the study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter includes (1) a summary of the purpose, methodology and results of the study; (2) conclusions derived from the presentation and interpretation of the data; and (3) recommendations for further study.

Summary

Purpose of the Study

The overall purpose of the study was to ascertain consequences of recent state education agency officials' CBVE initiatives within local education agencies. Four specific purposes were investigated:

1. To document the initiatives of the state education agency regarding CBVE and the local education agencies' response to these initiatives.
2. To ascertain perceptions and attitudes of vocational education instructors, and administrators within local education agencies toward CBVE and other program development.
3. To study the attitudes of teachers and administrators of school vocational programs toward CBVE as an accountability measure.
4. To analyze vocational education instructors' and administrators' perceptions and attitudes toward the various elements of program development in order to determine:
 - a. which elements meet needs of the respondents consistently;
 - b. strengths and limitations of forms in place currently.

Methodology

The study was a post-hoc assessment of the attitudes and perceptions of vocational teachers and administrators. To facilitate the assessment, two separate survey instruments were utilized. A teacher survey was sent to 20 vocational teachers identified by the state education agency as using CBVE materials in their classes. An administrator survey was sent to the superintendent-director of the 27 regional vocational high schools. The results of these surveys were used to reveal the overall attitudes and perceptions of teachers and administrators toward CBVE.

Results

The results of the study are based on a 95% response to the teacher survey, and a 92% response rate to the administrator survey.

1. CBVE is being used by one or more programs in 16 of the 25 schools responding to the administrator survey. Two additional returns indicated that they are presently reviewing CBVE materials.
2. Vocational administrators and teachers responding to the survey have a positive attitude toward CBVE. This coincides with results obtained by Vincent and Cobb (1977) who reported:

"All surveyed groups responded favorably to approximately 75 percent of all survey statements regarding CBVE. Administrators were most favorable in their responses, followed by teachers..."

3. Teachers and administrators feel that CBVE is a solid element in vocational curriculum development and is not just another educational fad which will be replaced in a few years.
4. Teachers are satisfied with the quality of the CBVE materials being developed with the initiative of the State education agency.
5. Teachers feel the inservice workshop which introduces CBVE does an adequate job.
6. Individualization of instruction is used extensively in programs utilizing CBVE materials. 79% of the teachers indicated that they are more able to individualize instruction with CBVE than a more traditional teaching strategy.
7. Using CBVE makes it easier to serve target populations, such as special needs and non-traditional students.
8. Teachers feel that administrative support for CBVE is strong.
9. Administrators do not feel that teachers strongly support CBVE.
10. 70% of the administrators felt that the teaching of vocational concepts is more efficient using CBVE.
11. Utilizing the CBVE process does not alter programs so they can accommodate increased enrollment.

12. Teachers are able to translate CBVE evaluation into traditional grading systems without difficulty.
13. The introduction of CBVE does not require any additional facilities. Additionally, the majority of respondents felt that the transition from a traditional approach to a competency-based approach was not difficult to accomplish.
14. 79% of the teachers perceived students as being more task oriented using the CBVE learning guides.
15. Program accountability is a major benefit to be realized while utilizing CBVE materials and procedures.

Conclusions and Interpretations

As a result of the data collected, the following conclusions and interpretations are stated:

1. The initiative of the state education agency regarding CBVE is having a definite impact on the presentation of vocational education in Massachusetts. Two thirds of the administrators indicated that CBVE was being utilized in their schools or they were presently reviewing CBVE materials for future adoption. Additionally, both administrators and teachers feel that CBVE is not just another educational fad, and will be utilized in the schools for quite some time.
2. The overall attitude of teachers and administrators toward CBVE is positive. They find the materials being

- developed easy to use, of good quality, and readily accessible. Even though administrators don't feel teachers in general support the CBVE concept, teachers feel that administrative support for CBVE is great.
3. The use of CBVE materials in the classrooms has a great impact on the overall accountability of the vocational program. Students are more task oriented in the classroom and they seem to progress at a faster rate. Programs utilizing CBVE are more apt to use individualization of instruction which makes the vocational programs more accessible to target populations, such as special needs and non-traditional students. Additionally, there is more uniformity between instructors with regard to material being taught in the classroom.
 4. CBVE is still in an embryonic stage in Massachusetts high schools. Curriculum guides are being developed and disseminated in many additional vocational areas. Many school programs are using the curriculum guides as written, but some are reviewing many different CBVE materials and have indicated they will develop their own materials from those reviewed. As time goes on more programs will be adopting the concept of CBVE either in part or wholly, and future studies will be able to look

more closely at the overall effectiveness of CBVE compared to a more traditional approach.

Recommendations for Further Study

This study was conducted to ascertain the status of CBVE in Massachusetts vocational high school as it is being initiated by the state educational agency. Questions that seem to warrant additional consideration and further investigation include:

1. A study should be conducted to examine the perceptions of students regarding the use of CBVE as compared to this approach where we asked the opinions of teachers and administrators. This could include a comparison of the job preparedness of students in a program utilizing CBVE as compared to a more traditional approach.
2. A study should be conducted which would include all vocational instructors in the state. Not only would this type of study secure data on the extent of CBVE's use, but could also examine some of the reasons vocational instructors give for not utilizing CBVE.
3. This study, possibly with the inclusion of a student segment, should be conducted in three to five years to again assess the perceptions of those involved in CBVE as to its effectiveness. The developmental stages of CBVE material will have matured, and feedback would be given the state education agency as well as individual

vocational high schools to further enhance the presentation of vocational education in Massachusetts.

Appendix A

Please do not sign your name.

COMPETENCY BASED VOCATIONAL EDUCATION

ADMINISTRATIVE SURVEY

A. CBVE has been adopted by one or more teachers in our school.

Yes _____ No _____

B. Below are statements regarding the Competency Based Vocational Education (CBVE) program in your school. Please indicate the extent to which you agree or disagree with these statements by CIRCLING ONE of the following:

	SA	A	N	D	SD
	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. Teacher support for CBVE in our school is strong.				SA	A N D SD
2. The CBVE process and learning guides fit into our typical school year.				SA	A N D SD
3. CBVE discourages student enrollment in our Vocational Education Programs which emphasize the use of the process.				SA	A N D SD
4. Programs using the CBVE process could accommodate increased enrollment.				SA	A N D SD
5. Teachers have adequate time to keep records on their students who are using the CBVE individualized process.				SA	A N D SD
6. There are too many "administrative problems associated with CBVE.				SA	A N D SD
7. The drop-out rate for vocational students in programs using the CBVE process has decreased since its implementation.				SA	A N D SD
8. CBVE is another educational fad and will be replaced by another system within the next few years.				SA	A N D SD

- | | | | | | |
|--|----|---|---|---|----|
| 9. Our teachers report that classroom management is difficult when students are using CBVE. | SA | A | N | D | SD |
| 10. CBVE is more "cost effective" than traditional methods of instruction. | SA | A | N | D | SD |
| 11. Facilities at our school are appropriate for CBVE instruction. | SA | A | N | D | SD |
| 12. There is no major difference in CBVE teaching methodology and the teaching methodology used by our teachers before CBVE was implemented. | SA | A | N | D | SD |
| 13. CBVE evaluation is compatible with the traditional grading system used in our school. | SA | A | N | D | SD |
| 14. The inservice workshop, which introduces CBVE, does an adequate job. | SA | A | N | D | SD |
| 15. The ease of using CBVE instruction hampers further curriculum development by teachers. | SA | A | N | D | SD |
| 16. The CBVE Instructor's Manuals provide helpful resource material and ideas for teachers. | SA | A | N | D | SD |
| 17. CBVE increases teachers' effectiveness. | SA | A | N | D | SD |
| 18. Teachers in my school have expressed satisfaction with CBVE. | SA | A | N | D | SD |
| 19. I spend much time locating materials and answering teacher's questions regarding the implementation of CBVE. | SA | A | N | D | SD |
| 20. CBVE requires more administrative resources than other methods of instruction. | SA | A | N | D | SD |
| 21. CBVE learning guides and resource materials are easily obtained for our Vocational Education Program. | SA | A | N | D | SD |
| 22. The learning guides and performance objectives provided for specific CBVE curricula meet the needs of the | SA | A | N | D | SD |

students in our Vocational Education Program.

- | | | | | | |
|--|----|---|---|---|----|
| 23. Designing our vocational education program around the CBVE concept is difficult. | SA | A | N | D | SD |
| 24. Students seem to progress at a faster rate since CBVE was implemented. | SA | A | N | D | SD |
| 25. CBVE does not offer students the levels of proficiency required by job entry standards in our community. | SA | A | N | D | SD |
| 26. CBVE makes it easier to serve target populations such as special needs and non-traditional students. | SA | A | N | D | SD |
| 27. Instruction is more individualized in programs using the CBVE process. | SA | A | N | D | SD |
| 28. The teaching of specific vocational concepts is more efficient using CBVE. | SA | A | N | D | SD |
| 29. How would you categorize your attitude toward the utilization of CBVE in your school? | | | | | |
| 1. Very Positive | | | | | |
| 2. Positive | | | | | |
| 3. Neutral | | | | | |
| 4. Negative | | | | | |
| 5. Very Negative | | | | | |

30. Which of the following programs in your school are currently utilizing a CBVE curriculum developed after the model proposed by the state education agency?

- | | |
|--|--|
| <input type="checkbox"/> Auto Mechanics | <input type="checkbox"/> Body and Fender Repair |
| <input type="checkbox"/> Carpentry | <input type="checkbox"/> Child Care |
| <input type="checkbox"/> Computer Technology | <input type="checkbox"/> Drafting |
| <input type="checkbox"/> Electrical Technology | <input type="checkbox"/> Electronic Technician |
| <input type="checkbox"/> General Merchandising | <input type="checkbox"/> Graphic Arts |
| <input type="checkbox"/> Hotel and Lodging | <input type="checkbox"/> Machine Shop |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Nursing Assistant |
| <input type="checkbox"/> Ornamental Horticulture | <input type="checkbox"/> Plumbing and Pipefitting |
| <input type="checkbox"/> Small Business Management | <input type="checkbox"/> Small Engine Repair |
| <input type="checkbox"/> Food Service, Management and Production | <input type="checkbox"/> Heating, Ventilation and Air Conditioning |
| <input type="checkbox"/> Other (please specify) | |

Appendix B

Please do not sign your name

COMPETENCY BASED VOCATIONAL EDUCATION (CBVE)

TEACHER QUESTIONNAIRE

Introduction: This questionnaire has been developed to collect your opinions about various aspects of CBVE. Please be as candid and honest as you can. Your answers will be confidential.

Directions: Please read each statement and indicate the extent to which you agree or disagree by circling one of the following:

SA A N D SD
Strongly Agree Agree No opinion Disagree Strongly Disagree

- | | | | | | |
|--|----|---|---|---|----|
| 1. Transition from one learning guide to the next learning guide is difficult for students. | SA | A | N | D | SD |
| 2. Classroom management is difficult when students are using learning guides. | SA | A | N | D | SD |
| 3. I have major problems assigning grades to my CBVE students. | SA | A | N | D | SD |
| 4. CBVE allows my students to do more independent "investigations" than my previous method of instruction. | SA | A | N | D | SD |
| 5. I feel uncomfortable using the CBVE materials. | SA | A | N | D | SD |
| 6. CBVE restricts my freedom in the classroom. | SA | A | N | D | SD |
| 7. CBVE allows me to keep up to date in my occupational area. | SA | A | N | D | SD |
| 8. I am unable to diagnose learning difficulties using the CBVE learning guides. | SA | A | N | D | SD |
| 9. The CBVE objectives of the State prepared guides are "in tune" with my local job training needs. | SA | A | N | D | SD |

- | | | | | | |
|--|----|---|---|---|----|
| 10. CBVE improves overall teacher effectiveness. | SA | A | N | D | SD |
| 11. CBVE reference and resource materials are available to me. | SA | A | N | D | SD |
| 12. Administrative support for CBVE is strong. | SA | A | N | D | SD |
| 13. CBVE is a fad and will be replaced by another system within the next few years. | SA | A | N | D | SD |
| 14. The teachers inservice workshop, which introduces CBVE, does an adequate job. | SA | A | N | D | SD |
| 15. The CBVE process and learning guides fit into our typical school year. | SA | A | N | D | SD |
| 16. I have adequate time to evaluate the progress of all students in my class who are using the CBVE individualized processes. | SA | A | N | D | SD |
| 17. I often refer to the Instructor's Manual for resource materials and ideas. | SA | A | N | D | SD |
| 18. Using CBVE learning guides requires more organizational time than do other methods of instruction. | SA | A | N | D | SD |
| 19. There is no major difference in CBVE teaching methodology and the teaching methodology I used before I implemented CBVE. | SA | A | N | D | SD |
| 20. CBVE evaluation is difficult to translate into traditional grading systems. | SA | A | N | D | SD |
| 21. The organization of the Instructor's Manual needs to be simplified. | SA | A | N | D | SD |
| 22. Students are better motivated by the CBVE learning guides than with my previous instructional methods. | SA | A | N | D | SD |

- | | | | | | |
|--|----|---|---|---|----|
| 23. Students seem more "task oriented" using CBVE learning guides. | SA | A | N | D | SD |
| 24. The reading level of the learning guides is too difficult for my students' abilities. | SA | A | N | D | SD |
| 25. My introduction of the CBVE learning guides concept has kept students in school who may have dropped out of a traditional program. | SA | A | N | D | SD |
| 26. Most students <u>dislike</u> the CBVE approach. | SA | A | N | D | SD |
| 27. Facilities at my school are appropriate for CBVE instruction. | SA | A | N | D | SD |
| 28. Using the CBVE process makes it possible for me to teach more students in my vocational program. | SA | A | N | D | SD |
| 29. I do not like to teach under the Competency Based Vocational Education process. | SA | A | N | D | SD |
| 30. Teaching techniques can be more creative with CBVE materials. | SA | A | N | D | SD |
| 31. My audio visual equipment frequently breaks down when used by students participating in the CBVE process. | SA | A | N | D | SD |
| 32. The students like the learning guide presentation better than the traditional forms of presenting material. | SA | A | N | D | SD |
| 33. More students than ever before have expressed interest in taking my class since CBVE was implemented. | SA | A | N | D | SD |
| 34. Students are not able to complete as much material with the CBVE learning guides as with traditional methods. | SA | A | N | D | SD |
| 35. Students progress at a faster rate since I implemented CBVE. | SA | A | N | D | SD |
| 36. The CBVE process does not challenge my top students. | SA | A | N | D | SD |

- | | | | | | | |
|-----|---|----|---|---|---|----|
| 37. | My CBVE students are learning more subject matter than the students I have taught using traditional teaching methods. | SA | A | N | D | SD |
| 38. | Vocational administrators have a positive attitude toward CBVE. | SA | A | N | D | SD |
| 39. | Administrators encourage the use of CBVE. | SA | A | N | D | SD |
| 40. | I am more able to individualize instruction with CBVE than I was using traditional teaching strategies. | SA | A | N | D | SD |
| 41. | Using CBVE makes it easier to serve larger populations such as special needs and non-traditional students. | SA | A | N | D | SD |
| 42. | I have time to keep adequate records and files on students who are using the CBVE individualized process. | SA | A | N | D | SD |
| 43. | How would you categorize your attitude toward utilization of CBVE in your classroom? | | | | | |
| | 1. Very Positive | | | | | |
| | 2. Positive | | | | | |
| | 3. Neutral | | | | | |
| | 4. Negative | | | | | |
| | 5. Very Negative | | | | | |
| | 6. I do not know what CBVE is. | | | | | |
| 44. | To what extent are you currently utilizing CBVE in your classroom? | | | | | |
| | 1. to a very great extent | | | | | |
| | 2. to a great extent | | | | | |
| | 3. to a moderate extent | | | | | |
| | 4. to a small extent | | | | | |
| | 5. not at all | | | | | |

45. What vocational area do you teach?

- | | |
|--|--|
| <input type="checkbox"/> Auto Mechanics | <input type="checkbox"/> Body and Fender Repair |
| <input type="checkbox"/> Carpentry | <input type="checkbox"/> Child Care |
| <input type="checkbox"/> Computer Technology | <input type="checkbox"/> Drafting |
| <input type="checkbox"/> Electrical Technology | <input type="checkbox"/> Electronic Technician |
| <input type="checkbox"/> General Merchandising | <input type="checkbox"/> Graphic Arts |
| <input type="checkbox"/> Hotel and Lodging | <input type="checkbox"/> Machine Shop |
| <input type="checkbox"/> Medical Assistant | <input type="checkbox"/> Nursing Assistant |
| <input type="checkbox"/> Ornamental Horticulture | <input type="checkbox"/> Plumbing and Pipefitting |
| <input type="checkbox"/> Small Business Management | <input type="checkbox"/> Small Engine Repair |
| <input type="checkbox"/> Food Service, Management and Production | <input type="checkbox"/> Heating, Ventilation and Air Conditioning |
| <input type="checkbox"/> Other (please specify) | |

Appendix C



WESTERN KENTUCKY UNIVERSITY

BOWLING GREEN, KENTUCKY 42101

97

Office of Academic Computing
and Research Services

December 4, 1985

Mr. Charles A. Sheaff
Department of Industrial Education
and Technology
Keene State College
229 Main Street
Keene, N.H. 03431

Dear Mr. Sheaff:

On behalf of the Center for Career and Vocational Education, at Western Kentucky University, permission is extended to you for the use of three survey instruments (Teacher, Student, and Administrator Questionnaire) employed in our 1977 research project "CBVE: A Study To Measure its Effectiveness in Kentucky."

As you know these instruments, developed to collect CBVE data not available from other sources, were designed and field tested by our staff to meet the needs of the research and were necessarily limited to Kentucky educators. Unfortunately I know of no one else who may have used these instruments in comparable studies.

Best of luck with your dissertation describing the attitudes and preceptions of students, teachers and administrators toward CBVE. I feel that these instruments, coupled with visitation data should give you a substantial database from which to base your research. I would like a copy of the summary findings if you have the time to send them.

Please do not hesitate to contact me if I can be of further assistance.

Robert Cobb

A handwritten signature in black ink, appearing to read "Robert Cobb", written over a circular stamp.

Project Consultant
Academic Computing and
Research Services
Western Kentucky University

Appendix D



UNIVERSITY OF MASSACHUSETTS
AT AMHERST

Division of Educational Policy,
Research and Administration

99

Hills House
Amherst, MA 01003
(413) 545-2155
May 8, 1986

Dear _____:

As a doctoral candidate at the University of Massachusetts in Amherst, I am writing a dissertation on the attitudes and perceptions of administrators and teachers toward Competency-Based Vocational Education. The study is being conducted within the 26 regional vocational high schools in the state of Massachusetts.

Enclosed please find a copy of the administrator survey. Understanding the differing administrative structure of the various regional vocational schools, I would appreciate either your filling out the survey, or passing it along to the administrator most involved with curriculum matters in your school.

You may be assured of complete confidentiality. Your name will never be placed on the questionnaire. The questionnaire has an identification number for mailing purposes only. This allows your name to be checked off the mailing list when your questionnaire is returned. Due to the small number of questionnaires, it is important that I attain a high rate of return.

Thank you very much for taking time out of your busy schedule to complete the survey. The results of this study will provide an indicator of your attitudes and perceptions toward CBVE of those most involved with its use in Massachusetts high schools.

I would be happy to answer any questions you might have. Please write or call. The telephone number is (603) 352-5781.

Sincerely,

Charles A. Sheaff,
Graduate Student -
Vocational Education

Dr. Kenneth Ertel,
Professor - Occupational Education

CAS/b

Enc. 2

Appendix E



UNIVERSITY OF MASSACHUSETTS
AT AMHERST

Division of Educational Policy, 101
Research and Administration

Hills House
Amherst, MA 01003
(413) 545-2155

May 8, 1986

Dear _____:

As a doctoral candidate at the University of Massachusetts in Amherst, I am writing a dissertation on the attitudes and perceptions of teachers and administrators toward Competency-Based Vocational Education. The study is being conducted within the 26 regional vocational high schools in the state of Massachusetts.

In order to obtain the attitudes and perceptions of teachers concerning CBVE, surveys are being sent to those programs identified as utilizing CBVE curriculum guides which were developed following the model established by the state education agency. Having been so identified, your assistance in this study would be greatly appreciated. The enclosed survey has been designed to take only a few minutes to complete. The results will be used collectively as an indicator of how those most involved with CBVE feel about its use.

You may be assured of complete confidentiality. Your name will never be placed on the questionnaire. The questionnaire has an identification number for mailing purposes only. This allows your name to be checked off the mailing list when your questionnaire is returned. Due to the small number of questionnaires, it is important that I attain a high rate of return.

Thank you for taking time to fill out this survey. I would be happy to answer any questions you might have. Please write or call. The telephone number is (603) 352-5781.

Sincerely,

Charles A. Sheaff,
Graduate Student -
Vocational Education

Dr. Kenneth Ertel,
Professor -
Occupational Education

CAS/b

Enc.

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VITA

VITA

NAME: Charles A. Sheaff

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EDUCATION:

B.Ed.	Keene State College Keene, New Hampshire Industrial Arts	1972
M.O.E.	University of New Hampshire Durham, New Hampshire Occupational Education	1978
Ed.D.	University of Massachusetts Amherst, Massachusetts Occupational Education	1987

EXPERIENCE:

Teacher, Cheshire Vocational Center,
Keene High School, Keene, New Hampshire
1972-1982

Assistant Professor of Industrial Arts
and Technology, Keene State College,
Keene, New Hampshire, 1982-present

Self-employed Building Contractor,
Keene, New Hampshire, 1972-present

