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The Martha's Vineyard Regional High School core program : an historical-assessment study of cooperative vocational education in a semi-rural, isolated school district.

Herbert F. Custer

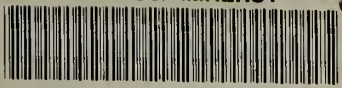
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THE MARTHA'S VINEYARD REGIONAL HIGH SCHOOL
CORE PROGRAM: AN HISTORICAL-ASSESSMENT
STUDY OF COOPERATIVE VOCATIONAL EDUCATION
IN A SEMI-RURAL, ISOLATED SCHOOL DISTRICT

A Dissertation Presented

by

Herbert F. Custer, Jr.

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

DOCTOR OF EDUCATION

May 1973

Major Subject: Occupational Education

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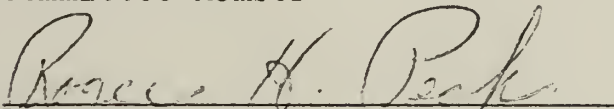
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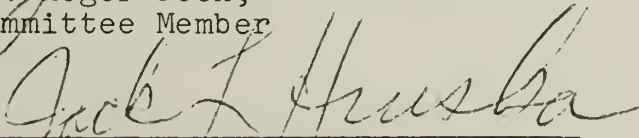
Dr. Kenneth A. Ertel,
Chairman of Committee



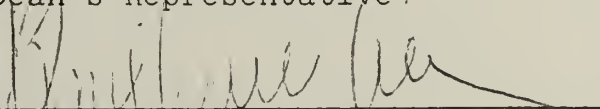
Dr. Mark Rossman,
Committee Member



Dr. Roger Peck,
Committee Member



Dr. Jack Hruska,
Dean's Representative



Dr. Dwight W. Allen,
Dean of the School of Education

May, 1973

DEDICATION

To those who shared
her husband,
their daddy-
On all those sunny days.

To those who gave
their love to him,
That sustain'd him in his labour.

To them;
Suzan, Jenny, John-
I dedicate this work,
For it is truly ours, not mine alone.

ACKNOWLEDGEMENTS

This research would not have been possible without the cooperation, assistance, and contributions of many persons who willingly gave of themselves. It is with sincere appreciation that the following colleagues, mentors, and assistants are acknowledged:

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- Mrs. Harriet Hoar, Mrs. Margaret Serpa and Ms. Sara Burgess, typists, for their patience, diligence, and ability to keep their heads while others were losing theirs.
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DISSERTATION ABSTRACT

An Historical-Assessment Study of Cooperative Vocational Education in a Semi-rural, Isolated School District (May 1973)

Herbert F. Custer, Jr., B.S., Central Connecticut

State College

M.Ed., University of Hartford

Directed by: Dr. Kenneth A. Ertel

The purposes of this study were: to chronicle the inception, organization, development, operation, and refinements of a cooperative vocational education program for diverse occupations in a semi-rural, isolated school district; and to assess the degree to which the objectives of that program had been met. Multiple research sources and methodologies were employed to assess the degree to which each of the objectives was met.

The four objectives of the program studied were:

1. To provide vocational education.
2. To improve student cognitive skills, especially in reading and mathematics.
3. To improve student self-esteem.
4. To improve student attitudes toward the learning atmosphere.

The degree to which the first objective was met was assessed by means of two separate research surveys and by research based on unobtrusive indicators. A synthesis of all research findings supported the conclusion that the first objective had been attained.

The achievement of the second objective was assessed by a quasi-experimental research design which utilized Stanford Achievement Test scores from students' permanent records for an experimental group and a control group over a four-year period. Rate of change or delta scores were computed to reveal trends in reading and mathematics achievement. Results of this research indicated that the reading achievement of the experimental group had significantly improved and that the mathematics achievement of the experimental group had not significantly improved during the period of this study.

The assessment of the third objective was conducted through the use of Coopersmith's Self Esteem Inventory in a modified time series, four group design; and through parent survey research. The results obtained from these research sources provided contradictory findings which prevented conclusions that the third objective had been met.

The achievement of the fourth objective was assessed by a quasi-experimental research design which used Frederickson's Learning Atmosphere Attitude Scale, parent survey research, and unobtrusive research. A synthesis of

findings from all research sources supported the conclusion that the attitude toward school of students enrolled in cooperative education had significantly improved.

Recommendations were developed concerning changes which should be made to direct the cooperative education program closer to its objectives. Recommendations were also made concerning the research methods employed in this study. Additional research was recommended to identify and analyze those factors which caused the objectives of the program to be achieved.

C H A P T E R I

INTRODUCTION

Background of the Problem

Much has been written about the weaknesses and failures of American public education, and the critics are outshouting if not outnumbering the supporters. Banfield, Green, Silberman, Holt, Goodman¹ and others have all made modern public education the whipping boy for society--a convenient repository of blame for the social ills of our time. To some extent, education must accept a share in the blame, since there can be no question that it has contributed to the cause of the problem.

More important then, and regardless of the blame, education must accept the responsibility to lead the way in correcting the ills of society. Educational systems are the one public institution which has access to all youth, and it is with youth that the improvement of society must begin.

¹Edward Banfield, The Unheavenly City (Boston: Little Brown and Co., 1970); Thomas Green, Work, Leisure, and the American School (New York: Random House, 1968); Charles Silberman, Crisis in the Classroom (New York: Vantage Books, 1970); John Holt, How Children Fail (New York: Pitman Publishing Co., 1964); Paul Goodman, Compulsory Mis-Education and the Community of Scholars (New York: Vantage Books, 1964).

Education is also the only public institution which yet retains some degree of public confidence which is necessary to effect social reforms; moreover, it remains generally respected as the time-honored and accepted means to achieve social improvement and reform. Education must honor the caveat not to lose support which is wearing thin. To recapture and strengthen the confidence, support, and cooperation of students, meaningful curricula must be quickly implemented. Educators can no longer afford to sit licking their wounds; they must act swiftly and positively in new directions. Toffler has written, "...our schools face backward toward a dying system, rather than forward to the emerging new society."² Education can no longer allow this charge to be true.

Many educational leaders are pointing in new directions, especially concerning urban, minority, and disadvantaged youth. More generally, these leaders have recognized the dramatic need for better educational programs for the forty to sixty percent of all students who do not seek education beyond grade twelve and who are not enrolled in vocational training programs.

Of those students currently in high school, only three out of ten will go on to academic college level

²Alvin Toffler, Future Shock (New York: Random House, 1970), p. 399.

work, and one-third of those will drop out before getting a baccalaureate degree. That means that eight out of ten present high school students should be getting occupational training of some sort, but only two out of eight are, in fact, getting such training. Consequently, half our high school students--a total of approximately a million and a half a year--are being offered what amounts to irrelevant general education pap!

Small wonder that so many drop out, not because they have failed, but because we have failed them.³

Our schools have alienated our youth. Young people by the millions have been dropping out of school mentally and emotionally, if not physically. The rebellion so frequently seen in many communities is a symptom of this frustration. Grant Venn has claimed that youth are rebelling in order to secure more social involvement; he feels, moreover, that the schools must begin to provide opportunities for youth to learn through real experiences, or else the schools will forsake their opportunity and responsibility to educate all of America's children.

The school must design a new approach to the curriculum which will provide a means for the student to render a service worthwhile enough to receive pay or educational credit, a service regarded as necessary by the community, the nation, or mankind. When students are serving, life is no longer meaningless. They no longer feel useless or excluded. They feel responsible and necessary.⁴

³Sidney Marland, "Career Education," National Education Association Journal (October, 1971), pp. 22-25.

⁴Grant Venn, Man, Education, and Manpower (Washington, D.C.: American Association of School Administrators, 1970), p. 108.

Like many school districts throughout the nation, the Martha's Vineyard Regional High School District has been guilty of many of the accusations leveled by the critics of education. Prior to 1969, three curriculum tracks were available to students, and, by forcing a fit, all students were accommodated in either the college preparatory, business education, or general studies programs. Immediately prior to the period included in this study, there was a growing incidence of student discipline problems and an increased awareness on the part of classroom teachers that many students were maladjusted to curriculum content and process. This realization precipitated a series of meetings to address the phenomena. During initial meetings between faculty and administration, a significantly large group of students were identified as handicapped in their ability to develop educationally in the available school environment.

In the past, prior to regionalization of the high school district, the separate schools had provided various forms of vocational education which had been considered effective in meeting the needs of youth who were experiencing one or more forms of difficulty.

With these facts and impressions in mind, a planning committee consisting of four teachers, the principal and the assistant principal of the high school, was formed. The committee met regularly during the spring of 1969 and ultimately accepted the responsibility to:

- a. Identify the characteristics commonly manifested by those students who, in the opinion of the faculty at large, were maladjusted to the available school environment.
- b. Develop an educational program designed to meet the needs of these students.
- c. Secure approval from the school committee to implement the developed program.
- d. Serve as teachers in the program after it became operational.

In meeting responsibility a., above, the committee identified the following characteristics as generally typical of the student for whom the program was being designed:

1. At least one year behind grade level.
2. Record of poor attendance.
3. Achievement significantly below grade level in basic skills (mathematics and reading).
4. Demonstration of a failure syndrome (perception of self as an academic failure--habit of refusal to try based on anticipation that result will be at failure level).
5. Manifestation of poor self-esteem.
6. Exhibition of an active dislike of school.
7. Vocationally oriented--demonstration of highest levels of achievement in activity learning (manual skills courses).

8. Record of frequent incidence of discipline infractions.
9. Categorized by teachers as uncooperative, inattentive and unmotivated in the available school setting.

In developing a program of study the planning committee agreed upon a cooperative education plan for diverse occupations as the format best suited to the needs of the identified students and for the anticipated curriculum content. The planning committee anticipated the development of a distinct alternative school atmosphere wherein the objectives of the program would be likely to be met. From the loosely stated objectives which were originally established for the program by the planning committee, the following have been selected and refined by the investigator to represent the major procedural and operational objectives.

1. To provide vocational training and education suitable to the interests and abilities of each student.
2. To improve the academic achievement of each student, especially in reading and mathematics.
3. To develop the human potential via improvement of the self-concept or self-esteem of each student.
4. To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, the teachers and the administration.

With these objectives in view the planning committee proceeded to develop a program of study based on cooperative education in the fall of 1969. While a series of structural changes in the program have occurred over the intervening years, these objectives have remained intact and valid. Those changes to the program which were made have been in the form of refinements and adjustments to improve the effectiveness of the program in reaching the established objectives. In fact, over the life of the program, the form and content has remained fundamentally unchanged.

The study which follows consists of an historical description of the program, known by the local educational agency as the Core program since it is based around a central core of basic academic subjects. This narrative includes all significant facts of the program's development and operation. Through the use of a multi-faceted assessment design, the relative effectiveness of the Core program in meeting the selected objectives has been determined. From the results of assessment, recommendations have been made concerning the suitability of this form of educational program in relation to its environmental setting.

Statement of the Problem

The major objectives of this study have been: 1. to identify major actors and incidents which had influence upon the inception, organization, and implementation of the

Core program at Martha's Vineyard Regional High School; and 2. to determine the relative effectiveness of the program in meeting the four objectives selected for the Core program.

The objectives of this study have been approached in the following ways:

1. Through a study of documents from the Massachusetts State Department of Education, Division of Occupational Education; minutes of meetings of the Martha's Vineyard Regional High School Committee, the Core advisory committee, and the Core planning committee; correspondence; records; reports; and notes of interviews, to identify major actors and incidents which have been critical to the inception, organization and development of the Core program.
2. Through the use of a matched comparison group, quasi-experimental, modified time series design utilizing the Stanford Achievement Test, to determine the relative effectiveness of the Core program as a modifier of the cognitive development of participating students with specific regard for mathematics and reading achievement.
3. Through the use of a quasi-experimental, modified four group design, to determine the relative changes in perceptions of self-esteem which

occurred as a result of enrollment in the Core program. The Self Esteem Inventory, administered to the entire student body in May of 1971 and again in May of 1972, was used to determine these changes.

4. Through the use of a quasi-experimental, modified four group design, to determine changes in attitude toward the learning environment experienced by students as a result of participation in the Core program. The Learning Atmosphere Attitude Scale, administered to the entire student body in May of 1971 and again in May of 1972, was used to determine these changes.
5. Through the use of a structured and standardized interview incorporating "closed" items conducted in the late spring of 1972 by telephone and through personal contact, to determine the opinion of fifty-three selected parents of Core students concerning the effectiveness of the program as a form of vocational education, as a supportive agent for student self-esteem, and as a factor in improved student attitude toward school. The structured standardized interview used was a modification of one developed for the Neighborhood Youth Corps by Educational Testing Service.
6. Through the use of a structured and standardized

interview conducted in the late spring of 1972 by telephone and personal contact, to determine the opinion of thirty-seven cooperating employers of Core students concerning the effectiveness of the Core program as a form of vocational education. The employers interview, like the parent interview, was a modification of one designed by Educational Testing Service for the Neighborhood Youth Corps.

7. Through on-site observations, unobtrusive measures, discussions, conversations, correspondence, notes and school records, to determine the relative degree to which the selected objectives of the program have been accomplished.
8. Through an analysis and synthesis of the findings revealed by the procedures described in 2. through 7. above, to develop conclusions concerning the degree to which the objectives of the Martha's Vineyard Regional High School Core program have been reached. These conclusions have been based on emergent patterns and trends rather than on specific or absolute differences.
9. From the conclusions developed from the study, to develop recommendations concerning: a. changes which would redirect the program closer toward its objectives; and b. improved provisions for future assessment procedures.

Definition of Terms

The following terms are defined operationally as they will be used in the study:

Cooperative education defines an educational program developed through a cooperative arrangement between the school and employers in the community for the purpose of providing students with an opportunity to alternate in-school academic and vocational instruction with entry level employment in any occupational field. The student's school and work experience is planned, coordinated and supervised by the school and the employer. Employers normally pay students at least the statutory minimum wage.⁵

Coordinator refers to the professional employee of the school who coordinates academic studies with the vocational experiences. As referred to in this study the title includes roles as counselor, ombudsman, curriculum specialist, and program administrator.

Advisory committee refers to the group of business and trades people invited from the community to act in an advisory capacity to the coordinator and teachers of the program.

School committee refers to the locally elected legal body organized to govern the school district and to enforce the laws relating to public schools.

⁵Roy Butler and Eric York, What School Administrators Should Know About Cooperative Vocational Education (Columbus: Eric Clearinghouse, August, 1971).

Planning committee refers to the original group of teachers and administrators which conceptualized, developed and implemented the Core program.

Core program refers to the title assigned to the co-operative education program of study at Martha's Vineyard Regional High School by the local educational agency.

Cooperating employer describes the person or firm which employs and vocationally trains students on an alternate time period basis with the school.

Work station is the term used to describe the site or position of employment held by the student.

Self-esteem is the evaluation which an individual makes and maintains with regard to himself: it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful and worthy.⁶

Self Esteem Inventory (S.E.I.) is an instrument designed to measure the self-esteem of an individual from the perspective of the subject.⁷

Work week refers to the period during the alternative week cycle of the program when the student is experiencing on-the-job training.

⁶Stanley Coopersmith, The Antecedence of Self-Esteem (San Francisco: W.H. Freeman and Co., 1967), pp. 4-5.

⁷Ibid., pp. 9-10.

Learning Atmosphere Attitude Scale (LAAS) is a thirty-item, likert scale instrument designed to measure the attitude of the subject toward his learning atmosphere and learning environment.⁸

Parent Program Assessment Inventory (PPAI) is a structured interview comprised of "closed" items conducted through either a telephone contact or a personal contact to determine parents' assessments of the effectiveness of the Core program as a form of vocational education, as a modifier of student self-esteem, and as a modifier of student attitudes toward the school. This instrument is a modification of the interview schedule developed by Educational Testing Service of Princeton, New Jersey to assess the Neighborhood Youth Corps Programs. (U.S. Department of Labor, Manpower Administration Project No. 41-9-005-32.)

Employer Program Assessment Inventory (EPAI) is a structured interview conducted through either a telephone contact or a personal contact to determine the participating employer's assessment of the Core program as an effective form of vocational education. Like the PPAI, this instrument is a modification of one designed by Educational Testing Service under U.S. Department of Labor contract No. 41-9-005-32.

⁸Ronald H. Frederickson and Francis D. Kelly, Learning Atmosphere Attitude Scale (Amherst: University of Massachusetts, 1971).

Assumptions of the Study

1. Respondents to interviews, assessment instruments and questionnaires have been candid and honest in their replies.
2. Respondents have reacted to attitude measures in accordance with their attitudes at the time of response.

Limitations of the Study

1. The study has been concerned only with information which is available for investigation and considered necessary to determining the objectives stated.
2. The study has been limited to the time period from the spring of 1969 to June 30, 1972, although data has been drawn from records of student performances which antedate this time period. The assessment of the operational phase has been limited to the period from September 1969 through June of 1972. Any generalizations which have been made may be accordingly limited.
3. Mortality was not controlled for. Students have graduated from school, moved away or dropped out. Other students have entered the program. As a result the population of the program has not re-

mained consistent throughout the period of this study and only limited efforts have been made to adjust for these phenomena.

4. The objectives being assessed may not be of the nature to lend themselves to precise measurement since assessment was not a consideration in their original formulation and statement. The procedures, techniques and instruments used, though selected to assess as closely as possible, may have affected the validity of the results.
5. Since some of the data was collected from persons closely involved with the program, there is the possibility of an element of bias.
6. The investigator of this study was involved with the program under study in a variety of roles. This involvement may have inadvertently caused him to seek results favorable to the program.

Design of the Study

The study consists of two types of design: a case study method, and a multifaceted assessment design. While the identity and integrity of each component has been retained, it is inevitable that each interdepends on the other. These methods as they have been used in the study are described in the following sections.

The Case Study Method

Data from a variety of sources has been collected and analyzed to describe the inception, planning, organization and operation of the Martha's Vineyard Regional High School Core program. The resulting narrative description identifies major actors and incidents relative to each of those phases. Data and information sources include: minutes of the program planning committee; minutes of the Martha's Vineyard Regional High School committee; minutes of the Core advisory committee; correspondence and documents pertaining to funding proposals from the Massachusetts State Department of Education, Division of Occupational Education; periodic reports, notes of interviews, and records of conversations. The historical narrative which evolved comprises description of a specialized program of study and it serves as the frame of reference for the multifaceted assessment of the relative degree of accomplishment of the selected objectives for the Martha's Vineyard Regional High School Core program.

The Assessment Design

A multifaceted assessment methodology was employed to determine the effectiveness of the Martha's Vineyard Regional High School Core program in meeting the selected objectives. Each of the objectives was assessed by several and different assessment techniques. For some objectives a quasi-experimental design for assessment was used, comple-

plemented with assessment based on other procedures. By the use of this technique several assessment indicators were used for each of the objectives rather than relying upon a single procedure. This approach strengthened internal validity. The rationale for this technique is suggested by Belasco and Trice who urge that all available measures be utilized, particularly in field study situations where only quasi-experimental procedures are possible and ex-post-facto assessments are necessary since no original provisions are made for evaluation.⁹

Following is a statement of each of the selected objectives of the Martha's Vineyard Regional High School Core program, followed by the assessment procedures which have been used to determine the degree to which each objective has been reached.

Objective number one

To provide vocational training and education suitable to the interests and abilities of each student.

Assessment procedures

1. The Parent Program Assessment Inventory (PPAI) has been used in part to assess the effectiveness of the program

⁹James A. Belasco and Harrison M. Trice, The Assessment of Change in Training and Therapy (New York: McGraw-Hill Book Co., 1969), pp. 152-3.

in providing vocational education suitable to the needs of the students enrolled in the program. This assessment form consists of a structured standardized interview, comprised of "closed" items, which has been conducted by telephone contact or personal contact by the investigator in the late spring of 1972. The one-time-only administration of the PPAI has been structured in both form and content and includes fifty-three parents of currently enrolled and former students. The interview is a modification of a similar purpose instrument designed by Educational Testing Service of Princeton, New Jersey to assess Neighborhood Youth Corps Programs (U.S. Department of Labor, Manpower Administration Project No. 41-9-005-32). The modification consists of eliminating inappropriate items, rewording items to apply to the Core program and altering the descriptive information included in some items.

2. The Employer Program Assessment Inventory (EPAI), similar in many respects to the PPAI, has been used to determine the effectiveness of the Core program as a form of vocational education from the viewpoint of thirty-seven presently and formerly participating employers. The administration of this instrument has been conducted through telephone contact or personal contact by the program coordinator, one time only, in the late spring of 1972. This instrument is a modification of one developed by Educational Testing Service for a similar purpose for

Neighborhood Youth Corps Programs (U.S. Department of Labor, Manpower Administration Project No. 41-9-005-32). Modifications have been limited to alteration of the wording of the instrument to directly apply to the Core program and to the elimination of inappropriate and superfluous items.

3. Several unobtrusive measures have also been studied as assessment indicators of the Core program as a form of vocational education. Since placement of each student in a cooperative work education position suited to his vocational interests and abilities is an important criterion for the program, a review of available Kuder Preference Record (Vocational) profiles has been compared with the occupations in which individual students are apprenticed. A survey of recorded notes of vocational counseling sessions, conversations and discussions with teachers, students, and community members concerning generally held attitudes and perceptions of the vocational effectiveness of the Core program has been analyzed.

Objective number two

To improve the academic achievement of each student, especially in reading and mathematics.

Assessment procedure

The students enrolled in the Core program were matched with a comparison group of general studies students on the basis of age, sex and I.Q. (within stanine). The group

scores for reading achievement and mathematics achievement from the Stanford Achievement Test have been analyzed for D scores or Delta scores between the Core students and the matched comparison group.¹⁰ Since Core students had been initially selected into the program because of low academic achievement, direct comparison in terms of absolute scores would not provide a valid indicator of student progress. Therefore, instead of direct comparison of absolute group mean scores, trends or rates of change were determined and accepted as being more indicative of the effectiveness of the Core program in improving academic achievement. Stanford Achievement Test scores for grade seven, grade nine, and grade eleven were determined for Core students and for the matched comparison group. Through the use of a modified time series, quasi-experimental design, the change score or Delta scores between administrations of the Stanford Achievement Test for reading achievement and mathematics achievement have been determined, compared and analyzed with a "t" test to establish the level of significance.¹¹

¹⁰Fred N. Kerlinger, Foundations of Behavior Research, Educational and Psychological Inquiry (New York: Holt, Rinehart, and Winston, Inc., 1964), p. 309.

¹¹Karlene H. Roberts, Understanding Research: Some Thoughts on Evaluating Completed Educational Projects (An occasional paper from ERIC at Stanford, July, 1969), p. 15.

Objective number three

To develop the human potential via improvement of the self-esteem or self-concept of each student.

Assessment procedure

1. To assess this objective, the primary instrument used was Coopersmith's Self Esteem Inventory.¹² This instrument was used in a pretest-posttest, quasi-experimental design incorporating a modification of Solomon's four-group paradigm.¹³ Four groups consisting of College Preparatory, Business Education, General Studies and Core program students were assessed for level of self-esteem, using the Self Esteem Inventory. An administration of this instrument was made in May of 1971, and the second administration was conducted in late May of 1972. The group mean difference scores were subjected to an analysis of variance and tested for significance through the use of an "F" test. This test was used because of the prior recognition that the standard deviations and/or variances of the four groups were not equal at the outset.¹⁴

¹²Stanley Coopersmith, The Self Esteem Inventory, 1959.

¹³Karlene Roberts, Understanding Research, p. 15.

¹⁴Kerlinger, Foundations of Behavioral Research, pp. 258-59.

2. A second procedure to assess the degree to which participation in the Core program has affected student self-esteem was selected items from the Parent Program Assessment Inventory. This previously described instrument included items which solicited ratings from parents concerning changes in student self-esteem during Core program participation.

Objective number four

To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, the teachers and the administration.

Assessment procedure

1. To assess this objective, Fredrickson and Kelly's Learning Atmosphere Attitude Scale (LAAS) was used in a quasi-experimental design incorporating a modification of Solomon's four group paradigm. The four groups consisted of: College Preparatory, Business Education, General and Core program students. The de-facto assessment of these groups with the LAAS was conducted in May of 1971. A second administration of the same instrument was conducted in late May of 1972. The group mean difference scores were compared by means of an analysis of variance and tested for significance with an "F" test. As with the SEI scores, the "F" test was used because of obvious differences in variance and standard deviation which are intrinsic to and

between each of the groups.

2. A variety of unobtrusive measures were also made to assess changes in student attitudes toward the learning environment.

- a. A review of records of discipline infractions was made to compare the number and nature of incidents in which Core students were involved before and during participation in the Core program. The time span for each condition was not equal in most cases; however, comparisons were weighted to establish equivalence before evaluation was made. This assessment was conducted with the assistance and cooperation of the assistant principal of the high school who is responsible for disciplinary matters.
- b. A review of the attendance records of students enrolled in the Core program was made. A comparison of attendance before and during enrollment in the program was analyzed for any effect which the program may have had on student's attitude toward the school as reflected in his attendance. Attendance records for a non-Core group were reviewed for the same time period for comparative purposes.
- c. Conversations with teachers, students, and

administrators were analyzed for assessment of the effect of participation in the Core program as an agent in modifying student attitude toward the learning environment.

The Study Population

The population which served as the focus of attention for this study was the students of Martha's Vineyard Regional High School in Oak Bluffs, Massachusetts who were enrolled in the cooperative education program. To a considerable degree these students have been diagnosed as academically disadvantaged, vocationally inclined and drop-out prone. Their number varied over the period of this study from forty-five to fifty-three, with fifty being accepted as the mean. The ages of the subjects ranged from fifteen to twenty-one years. Since the program is non-graded, no identification has been made of numbers at each grade level; however, with only rare exceptions, all subjects of this study were in grades ten, eleven and twelve.

Significance of the Study

New directions for career education programs must become essential if the schools are to meet the challenge issued by Grant Venn to provide meaningful education for all students. This challenge is particularly frustrating if the students to be served are academically disadvantaged

and the school is isolated and has only limited facilities.

There are two overriding objectives today which must be met by the schools, or we fail. First, we must give to every child the minimum requirements of modern literacy, so he may continue his learning. We must reach and teach those children whose backgrounds have given them little or no basis for school work. To reach all or nearly all of these children is a first priority task.

Second, because of modern technology, we must make sure that every youth completes high school with the occupational skills needed to become employed or go on to a program where these skills are taught. This has never been attempted before. These two new tasks are not additions to the basic function of the schools; they are the priorities of the times.¹⁵

The Core program is an attempt to provide an education such as Dr. Venn has described, for a segment of the school population which, heretofore, had not been provided for by the school. This study has attempted to assess the degree to which this program has achieved the stated objectives.

Organization of the Dissertation

In chapter one of the dissertation the problem is described and its background is developed. The assessment design of the study is presented as well as its limitations and significance. Chapter two includes a review of related research and literature, particularly as it refers to self-esteem and cooperative education. Chapter three consists

¹⁵Grant Venn, Man Education and Manpower, p. 133.

of an historical narrative of the inception, development, implementation, operation and modification of the Core program at Martha's Vineyard Regional High School. Chapter four describes the assessment design methodology and the techniques which were used to determine the relative effectiveness of the Core program in achieving the four selected objectives. Chapter five is a presentation and analysis of data obtained through the assessment procedures used in the study. Chapter six includes the summary, conclusions and recommendations.

C H A P T E R II

REVIEW OF RELATED RESEARCH AND LITERATURE

Introduction

Self-esteem, self-concept, or self-perception-- different names for the same construct-- has been identified by research to be a very strong determining factor of human achievement. Unless an individual believes in himself, "backs" himself, as William James called it, he will not, perhaps cannot, utilize his abilities to perform even at his mean potential level of achievement.

A multitude of studies have been made of the interface between self-esteem and a wide range of environmental factors. The emphasis of most recent research has been on the interaction of self-esteem and the urban, disadvantaged learning environment. There are some interesting disagreements among researchers in this area. Other research on self-esteem has been concerned with the development of self-esteem in early childhood, the effect of schooling on self-esteem, and the interaction of self-esteem and vocational choice and success. It is in this last area that a mutually reinforcing positive effect seems to exist.

Relatively little research is available on specific educational techniques or procedures to develop self-esteem

in the schools. Most notably rare are studies of the mutual effect between specific curricular offerings and self-esteem.

The Definition of Self-Esteem

Definitions of self-esteem vary slightly among authorities, but Coopersmith's statement incorporates the essence if not the letter included by all others.

By self-esteem we refer to the evaluation which the individual makes and customarily maintains with regard to himself: it indicates the extent to which the individual believes himself to be capable, significant, successful and worthy. In short self-esteem is a personal judgment of worthiness which is expressed in the attitudes the individual holds towards himself.¹

Most investigators associate positive self-esteem with self-respect, superiority, pride, self-acceptance, and self-confidence. They also equate negative self-esteem with inferiority, timidity, self-hatred, lack of personal acceptance, and submissiveness. Regardless of the associations made, there appears to be relatively general agreement among researchers that either positive or negative perceptions of self-esteem represent personal values and convictions rather than socially established objective criteria.²

¹Stanley Coopersmith, The Antecedents of Self-Esteem (San Francisco: W.H. Freeman and Co., 1967), pp. 4-5.

²Ruth C. Wylie, The Self-Concept (Lincoln, Nebraska: University of Nebraska Press, 1961).

To some degree the level of self-esteem held by an individual toward himself is the result of measuring himself against what others expect and what he expects of himself.

The development of the self-concept is an infinitely complex process, but each individual holds such a concept which becomes the yardstick against which he measures his actions; this measurement reinforces or redirects his attitude of self-esteem. As soon as one's performance in what he backs himself to be falls below the self-expected level, the self-esteem will correspondingly fall.

Coopersmith, after an exhaustive review of research, sets forth four antecedents of self-esteem. The four sources are power, significance, virtue, and competence.³ It is entirely possible for an individual to achieve high self-esteem by attainment in only one of the four areas; in fact, some of the areas may be in conflict with each other. Of the four, research has found competence to hold the strongest potential as an influence upon self-esteem.⁴

Self-esteem, while the concept held by the individual of himself, is also developed as a result of how peers, parents, teachers, and significant others perceive the individual. These perceptions are conveyed to the individual

³Coopersmith, Antecedents of Self-Esteem, p. 38.

⁴R.W. White, "Motivation Reconsidered: The Concept of Competence," Psychology Review, LXVIII (July, 1965), pp. 297-333.

through an inferential process.⁵ As the individual goes through life his self-esteem can change and usually does. The dynamics of human life are mirrored in the dynamics of self-esteem.

The History of Self-Esteem

Interest in the human self is not a recent phenomenon. Descartes' interest in "cognito" as a thinking being opened the study of the self and its concepts for Locke, Hume, Berkeley, and other humanistic empiricists. William James, John Dewey, Charles Cooley, and George Mead were all concerned with the study of self as a part of human behavior. Cooley, through his "looking glass" theory of self-development as a result of social antecedence, was one of the first social psychologists to study self-concept development.⁶ Other scholars who have studied and written about self-esteem include Alfred Adler, Karen Horney, Erich Fromm, Abraham Maslow, Carl Rogers, and some less famous researchers.

The scholars mentioned have all contributed to a wider understanding of the components which contribute to self-esteem as an important modifier of human behavior. While each of them has espoused a unique theory of self-

⁵Carl Rogers, On Becoming a Person (Boston: Houghton Mifflin Company, 1961), pp. 163-198.

⁶Charles H. Cooley, Human Nature and the Social Order (Boston: Chas. Scribner & Sons, 1902), pp. 20-21.

concept development, all agree that the need to know one's self is basic to human experience. Since this self knowledge is basic, human development is retarded until the individual holds an adequate self-concept.⁷

Since World War II, researchers have shown an intensified interest in the study of self-esteem particularly in the study of its cause and effect relationship with other human behaviors. Morris Rosenberg, a staff sociologist of the National Institute of Mental Health, conducted an immense study involving over five thousand high school students; the study included explication of the association between social conditions and self-esteem. Ethnic group membership, Rosenberg found, is not related to self-esteem, and social class is only slightly related. Rosenberg's study is considered most important for its scope and for the consistency of results over its very diverse population.⁸

Throughout the history of the study of self-esteem, all the involved scholars have espoused a dynamic view of human behavior. They have seen man as an active, choosing being whose behavior is determined by external as well as internal forces. They have recognized that man must know himself and hold a self-image which accurately reflects his

⁷Don E. Hamachek, Encounters With the Self (New York: Holt, Rinehart, and Winston, Inc., 1971), pp. 45-58.

⁸Morris Rosenberg, Society and the Adolescent Self-Image (Princeton: Princeton University Press, 1965).

abilities. Moreover, these scholars have recognized that the self-concept can and should change as the abilities and the performances of the individual change.

Research Concerning Self-Esteem and Human Behavior

Vast numbers of studies have been conducted to determine the correlation between self-esteem and a wide variety of human behaviors. In some studies, research has concentrated upon determining if and to what degree a cause and effect relationship exists between self-esteem and the conditions of life. Results from most studies have been highly consistent, and considerable knowledge has been gained about self-esteem and its effect on life adjustment. Several major themes have evolved, but surprisingly little research has been done to determine specific methods to improve self-esteem.

Self-Esteem and Early Childhood

Research results abound which show that poor self-esteem can have a negative effect on a child at a very early age. Wattenberg and Clifford found that a negative self-image and poor achievement are established in many children before they even enter the first grade. Their investigation also showed that measures of self-concept made at the beginning of kindergarten were more predictive of third grade

reading achievement than were intelligence test scores.⁹

An important study by Shaw and McCuen tested the belief that an early negative self-image will cause poor academic achievement to occur early in the school years.¹⁰ Their study involved students with high intelligence and found that a positive correlation exists between self-esteem and achievement. A pattern of underachievement for students with low self-esteem emerges as early as first grade, becomes significant by the third grade, and continues to increase throughout the school years. Interestingly, the pattern of underachievement for girls begins somewhat later and to a less strong degree than for boys.

The fact that self-esteem is learned in early childhood from parents, peers, and significant others has been repeatedly reported in separate studies by Manis, Davidson and Lang, Merrill, and Heilbrum, not to mention others.¹¹

⁹W. Wattenberg and C. Clifford, "Relation of Self-Concept to Beginning Achievement in Reading," Child Development, XXXV (June, 1964), pp. 461-467.

¹⁰M.C. Shaw and J.T. McCuen, "The Onset of Academic Underachievement in Bright Children," Journal of Educational Psychology, LI (March, 1960), pp. 103-108.

¹¹M. Manis, "Personal Adjustments, Assumed Similarity to Parents, and Inferred Parental Evaluation of the Self," Journal of Consulting Psychology, XXII (August, 1958), pp. 481-85; H. Davidson and G. Lang, "Children's Perceptions of their Teachers' Feelings toward them Related to Self-Perception," Journal of Experimental Education, XXIX (April, 1960), pp. 107-18; F.E. Merrill, "Social Selves and Social Problems," Journal of Sociology and Social Research, XLIX (October, 1965), pp. 384-400; A.B. Heilbrum, "The Measurement of Identification," Child Development, XXXVI (February, 1965), pp. 111-127.

When a child enters school, those who are significant to him shift in order of importance; teachers and school peers become active as contributors to the attitude of self-esteem held by the child. The influence of the home on self-esteem remains an important factor throughout the adolescent years, despite the claims of youth to the contrary.¹²

The evidence is overwhelming that children have developed a self-concept of their abilities which may not be in congruence with their true capabilities early in life. A statement by Dyson most adequately sums the findings of research on this subject.

If there is one particularly significant result growing out of this research it is that 'nothing succeeds like success.' This is not a new understanding, as the old cliché indicates. Instead it re-emphasizes the importance of the anticipation of a feeling of success as being most crucial to the outcome of the actual performance.¹³

Self-Esteem and Academic Adjustment

A multitude of studies have been made relating academic adjustment with self-esteem. Academic adjustment, which includes academic achievement and personal, social and emotional adjustment within the school environment, has been positively correlated with self-esteem by nearly all research. Van Koughnett and Smith have described this as a

¹²Coopersmith, Antecedents of Self-Esteem, pp. 155-162.

¹³Ernest Dyson, "A Study of Ability Grouping and the Self-Concept," The Journal of Educational Research, LX (November, 1967), pp. 403-405.

condition of self-fulfilling prophecy wherein the school teaches the child he is a social and academic failure and then watches this reinforced prediction come true.¹⁴

One of the most extensive studies of self-esteem and academic achievement was conducted over a five-year period by Brookover and his associates. It revealed that self-concept functions independently of I.Q. and is more accurate than I.Q. as a predictor of school achievement.¹⁵

Other researchers have corroborated Brookover's findings with diverse populations. Jones and Strowig conducted a study in rural high schools and found significant correlation between self-esteem and academic adjustment.¹⁶

Borislow and Jones and Grieneeks, in separate studies with college students, found self-esteem an accurate predictor of academic achievement.¹⁷ In separate studies with

¹⁴B.C. Van Koughnett and Merle E. Smith, "Enhancing the Self-Concept in Schools," Educational Leadership, XXVII (December, 1969), pp. 253-255.

¹⁵W.B. Brookover, E.L. Erickson, and L.M. Joiner, "Self-Concept of Ability and School Achievement, III," Final Report of Cooperative Research Project #2831, U.S. Office of Education (East Lansing: Human Learning Research Institute, Michigan State University, 1967), pp. 142-145.

¹⁶J.G. Jones and W. Strowig, "Adolescent Identity and Self-Perceptions and Predictors of Scholastic Achievement," The Journal of Educational Research, XLII (October, 1968), p. 78.

¹⁷Bernard Borislow, "Self-Evaluation and Academic Achievement," Journal of Counseling Psychology, IX (September, 1962), pp. 246-254; J.G. Jones and L. Grieneeks, "Measures of Self-Perception as Predictors of Achievement," The Journal of Educational Research, LXIII (January, 1970), pp. 201-203.

middle-grade students, Roth and Campbell found positive correlation between high self-esteem and academic achievement; they noted, moreover, that girls held higher self-concepts than boys and, correspondingly, achieved higher.¹⁸

Many studies have been made correlating self-esteem and achievement in specific skills. Representative of these is the research done by Bodwin, who found a strong positive correlation between negative self-concept and low reading ability. He also found a positive and significant relationship between negative self-concept and poor arithmetic achievement. Bodwin's study population consisted of children in grades three through six.¹⁹

Peper and Chansky conducted a study to determine the relationship between self-esteem and mathematics achievement. Their findings revealed a very high correlation between high self-esteem and high mathematics achievement. An interesting fact they uncovered was that the correlation was higher in June than it had been in February of the same year.²⁰

¹⁸R.M. Roth, "Role of Self-Concept in Achievement," Journal of Experimental Education, XXVII (April, 1969), pp. 265-281; Paul B. Campbell, "Self-Concept and Academic Achievement in Middle Grade Public School Children," Dissertation Abstracts, XXVII (1966), pp. 1535-6.

¹⁹Raymond F. Bodwin, "The Relationship Between Immature Self-Concept and Certain Educational Disabilities," Dissertation Abstracts, XIX (1969), p. 1645.

²⁰J.B. Peper and N.M. Chansky, "Esteem and Achievement in Arithmetic," The Elementary School Journal, LXX (February, 1970), pp. 284-88.

In research done by Lumpkin a highly significant relationship was found between self-concept and achievement in reading. Lumpkin also stated that his results confirm the belief that achievement stems from intrinsic motivation.²¹ Similar findings for social studies and language arts were revealed, especially for over-achievers, who were found to hold an extremely high self-concept. Kurtz and Swenson also reported their research on this phenomenon.²²

Much of the contemporary emphasis of research on self-esteem and academic adjustment is concentrated upon urban, minority and disadvantaged populations. This body of research is particularly interesting because of an apparent disagreement of findings which has provoked no small controversy over the lack of research reliability.

Prior to 1969 research results consistently found lower self-esteem among children who were classified as culturally disadvantaged. Soares and Soares in 1969 published results of a study in which they reported finding that disadvantaged children have more positive self-perception than do advantaged children. They hypothesized that the apparent lack of congruence between self-image and

²¹Donovan D. Lumpkin, "The Relationship of Self-Concept to Achievement in Reading," Dissertation Abstracts, XX (1959), p. 214.

²²John J. Kurtz and Esther J. Swenson, "Factors Related to Over-Achievement in School," School Review, LIX (November, 1956), pp. 472-480.

environmental endowment may be explained by the fact that disadvantaged children are exposed only to other disadvantaged people in their daily activities. They cite the Coleman report (Equality of Educational Opportunity), which postulated that when Negro pupils become part of an integrated school system, their self-esteem diminishes. They further hypothesized that the parental pressures in advantaged children may precipitate low self-esteem in these children if they feel they are not measuring up to expectations.²³

Among others, Long write a critique of the Soares and Soares study in which she contended that their findings were contrary to results found by other researchers and, therefore, were of questionable validity.²⁴ Long's critique was in turn later rebutted by Soares and Soares, who had replicated their earlier research with the same results.²⁵

Interestingly, a study conducted by Caplan, contemporaneously with the Soares and Soares study, found that children in de-facto segregated schools had lower self-

²³Anthony Soares and Louise Soares, "Self-Perceptions of Culturally Disadvantaged Children," American Educational Research Journal, VI (1969), pp. 31-44.

²⁴Barbara Long, "Critique of Soares and Soares' 'Self-Perceptions of Culturally Disadvantaged Children'," American Educational Research Journal, VI (1969), pp. 710-11.

²⁵Soares and Soares, "'Critique of Soares and Soares' Self-Perceptions of Culturally Disadvantaged Children"--A Reply," American Educational Research Journal, VII (1970), pp. 631-35.

esteem than the self-esteem held by children in integrated schools.. Caplan also found a positive correlation between self-esteem and academic achievement.²⁶

The controversy has generated a high level of interest, and much research has followed which, to a large degree, has only added to the confusion. Powers, Drane and associates conducted a study whose results found that the self-concept of blacks is not significantly lower than that of other students. They suggest that self-image is more likely a product of the interactions within the subgroup to which the student belongs rather than the product of the relationship he has to the general school environment. This study denies that when black students enter integrated schools their self-esteem diminishes, particularly if the student maintains a strong primary group cultural contact.²⁷

A large majority of recent investigations of culturally disadvantaged children continue to find that these children do possess lower self-esteem than advantaged children; however, it appears that these findings are not universally accepted.

²⁶Morris Caplan, "The Relationship Between Self-Concept and Achievement," The Journal of Experimental Education, XXXVII, (Spring, 1969), pp. 13-16.

²⁷Jerry M. Powers, H.T. Drane, Bonnie Close, M. Pat Noonan, Audrey Wines, and Jon Marshall, "A Research Note on the Self-Perceptions of Youth," American Educational Research Journal, VIII (1971), pp. 665-669.

The inevitable question which arises from the study of self-esteem and achievement is the one which asks which is antecedent to which. Research has not positively answered the question; however, research does support the condition that each is mutually reinforcing of the other to the extent that a positive change in one facilitates a positive change in the other.²⁸

The Implications of Self-Esteem for Career Education

Research has shown self-esteem to be a critical factor in human adjustment and development. Without adequate self-esteem, it would appear that an individual cannot begin to utilize his capabilities to achieve adequately. Individuals with low self-esteem perceive themselves as incompetents or as failures and behave accordingly. The implication of this pattern for education, and especially for career education, becomes rather obvious: arrest the negative spiral, reverse the direction by any means possible, and create a new pattern of success built upon success.

Methods of Improving Self-Esteem

Until very recently little research has been conducted concerning specific techniques which schools have employed to enhance self-esteem. Van Koughnett and Smith

²⁸Hamachek, Encounters With the Self, p. 187.

studied a pilot program in Pontiac, Michigan in 1969 wherein the entire staff of a school was trained to positively reinforce the development of self-esteem in minority students. To establish initial success, handicrafts and other manual-dexterity skills were emphasized and utilized as the basis for concomitant academic instruction.²⁹

Ausubel and Ausubel similarly make a strong case for capitalizing on the strong skills of children as bases for developing self-esteem which can in turn be used as a confidence source to attempt other tasks. The Ausubels fault the schools as the major cause of low self-esteem, particularly in minority children, since the schools have set middle-class values as the goals of youth. They further charge that the schools must revise their approach to education to use the cultural and socio-economic values of the child as motivators of learning. The development of manual skills and the recognition of blue collar occupations as worthy are recommended as ideal beginning points for re-directing the self-esteem spiral.³⁰

Another very recent study by Higgins assessed a unified effort of teachers, counselors, and parents to develop

²⁹Van Koughnett and Smith, "Enhancing the Self-Concept," pp. 253-5.

³⁰David Ausubel and Pearl Ausubel, "Ego Development Among Segregated Children," in Education in Depressed Areas, ed. by A. Harry Passow (New York: Teachers College, Columbia, 1963), pp. 73-84.

improvement in the self-esteem of students in an entire school system. While strong positive trends appeared, the nine-week duration of the program was of insufficient length to permit significant levels of improvement.³¹

Self-Esteem and Career Identification

All major research has found that identification with an occupation, the selection of a career, is a vital component of self-esteem. One of Tiedeman's many studies has made famous the recognition of the identity crisis as a trauma to self-esteem. Tiedeman explains the experience as that which occurs in youth who complete their education and enter the world of work with no idea of what they wish to be.³² Studies by both Super and Borow confirm Tiedeman's findings and reaffirm the importance of career identification as a component of self-esteem which permits the student to possess a sense of direction which in turn provides motivation for academic achievement.³³

³¹James Higgins, "A Pupil Personnel Service Program to Develop Self-Esteem," Dissertation Abstracts, XXXII (1972), 4351A.

³²David Tiedeman, "Decision and Vocational Development: A Paradigm and its Implications," Personnel and Guidance Journal, XL (1961), pp. 15-20.

³³Donald Super, The Psychology of Careers (New York: Harper and Brothers, 1957), pp. 160-176; Henry Borow, "An Integral View of Occupational Theory and Research," in Man in a World at Work, ed. by Henry Borow (Boston: Houghton Mifflin Company, 1964), pp. 364-383.

Subsequent studies of self-esteem and vocational choice broadly support earlier findings that there exists a success cycle connecting self-esteem, vocational identification, and academic motivation. Extensive research by Kormans, Wheeler and Carne, Sharf, Bare, and Shrauger and Rosenberg produced similar findings concerning the mutually reinforcing effects of self-esteem, vocational choice and academic motivation.³⁴ The populations of their studies included college students, vocational high school students, and high school students.

Career Education and Self-Esteem

Research results all seem to clearly point in one direction for career education. In order to be motivated to learn in school, a student must first see himself as capable of learning and second must want to learn what is being taught. By utilizing areas of strong competence as initial

³⁴Abraham Kormans, "Toward an Hypothesis of Work," Journal of Applied Psychology, LIV (February, 1970), pp. 31-41; C.L. Wheeler and C.F. Carne, "Relationships among Self-Concepts, Ideal Self-Concepts, and Stereotypes of Probable and Ideal Vocational Choices; Blocker's Descriptive Check List," Journal of Counseling Psychology, XV (November, 1968), pp. 530-35; Richard Sharf, "Relative Importance of Self-Esteem, Interest and Ability in Vocational Decision Making," Journal of Counseling Psychology, XVII (May 1970), pp. 258-62; C.E. Bare, "Personality and Self-Concept Correlates of Occupational Aspirations," Vocational Guidance Quarterly, XVIII (June, 1970), pp. 297-305; J.S. Shrauger and S.E. Rosenberg, "Self-Esteem and the Effects of Success and Failure Feedback on Performance," The Journal of Personality, XXXVIII (September, 1970), pp. 404-417.

sources of success-experience, the self-esteem of a student may be raised, and motivation to learn may be inspired. For most students the area of greatest potential for initial success lies in the area of manual skills. Professor Pietrofesa argues this line of reasoning most convincingly.³⁵

A recent study by Baird reports successful results of a program which combined vocational interests, self-ratings, and academic achievement. The outcome of this research contains very strong implications for new directions, especially for academically handicapped students who can be vocationally educated for productive lives.³⁶

A major responsibility of career education is to provide all youth with either an entry level skill in an occupational field or the academic ability to pursue further education beyond high school age. Another implied responsibility is that of providing the confidence to aspire to higher rungs on the career ladder. Here again self-esteem has been found to be a vital ingredient. Results of research conducted by Kormans report highly consistent evidence that the extent to which individuals choose careers which are need-fulfilling and those which they believe will

³⁵J.J. Pietrofesa, "Self-Concept: A Vital Factor in School and Career Development," The Clearing House, XLIV (September, 1969), pp. 37-40.

³⁶L.L. Baird, "Relation of Vocational Interests to Life Goals, Self-Ratings of Ability and Personality Traits, and Potential for Achievement," Journal of Educational Measurement, VII (Winter, 1970), pp. 233-39.

be adequate is a positive function of the individuals' self-esteem. In addition, Kormans found that the level of self-esteem, more than any other factor, determines the occupation chosen.³⁷

The implications for career education are clear: all career education programs should provide for the development of self-esteem in all students if they are to identify themselves as worthy and capable of making full use of the educational program which is offered them by the school. Research has shown that self-esteem is learned, and what is learned can be taught. The school must begin to actively teach for positive self-esteem and develop programs which can provide students with real and meaningful educational experiences.

Cooperative Education as a Source of Self-Esteem Enhancement

Edward Banfield has charged that the schools frequently injure students emotionally and educationally. He charges that this condition is particularly true for vocationally inclined students who do not endorse middle-class values.

The boy who knows that he has learned nothing since the 8th grade but that he must nevertheless sit in boredom, frustration and embarrassment until he is sixteen or seventeen, when finally he is labelled

³⁷Abraham Kormans, "Self-Esteem as a Moderator of Vocational Choice," Journal of Applied Psychology, LIII (March, 1969), pp. 188-192.

'dropout,' must be profoundly disaffected by the experience. He senses that the school authorities and the whole apparatus of middle and upper class opinion that confine him there neither understand nor even care about the most palpable realities of his situation: that he will very likely work with his hands all his life, that he is not learning anything, that for such work he will not be helped by learning anything more, and that one who works with his hands had better start early because he will be old by the time he is forty. To tell such a boy that he must stay in school anyway because in the future there will be no jobs for people with only hands is to tell him something which is both untrue and irrelevant. If he cannot learn, staying in school will not help, and if there are no jobs for people with only hands, supporting him will be society's problem, not his.³⁸

Banfield and others have urged moving high school training for these youth out of the schools and into the offices and factories to give youth the option of combining work and learning.³⁹

Thomas Green strongly agrees with Banfield's ideas and believes that the ideology of work is of central importance in the process of education. He also feels that the way we think about careers may be the most significant aspect of schools and schooling.⁴⁰ Green makes a very strong case for granting recognition to work as a vital component of human development. He argues that in order to develop fully an adolescent must measure his potency, prove

³⁸Edward Banfield, The Unheavenly City (Boston: Little, Brown and Company, 1968), p. 149.

³⁹Ibid., p. 157.

⁴⁰Thomas F. Green, Work, Leisure and the American School (New York: Random House, 1968), p. 147.

himself, and demonstrate that he is someone; thereby self-esteem and self-identification are realized. Green feels that work is the primary means of effecting the development and that unless the school recognizes and utilizes this phenomenology of values, it will continue to alienate those students who need the school most.⁴¹

Katzell cites numerous studies which support the beliefs of both Banfield and Green and which indicate that work-skill achievement and vocational adjustment are vital ingredients of a healthy self-concept and of motivation for learning. A synthesis of research indicates that if a youth can identify with and practice the skills of a job, his outlook on life and his self-satisfaction will be positively affected. The more ego-involved he is in his job, the deeper his commitment to the sense of work, the more closely the quality of his job satisfaction converges upon his motivation to engage in activities which will further enhance his work skills.⁴²

Garbin and his associates in a recent study of worker adjustment problems, found that early work-role identification and participation had a very strong impact upon beginning workers' prestige, sense of belonging, self-concept,

⁴¹Ibid., pp. 138-9.

⁴²Raymond A. Katzell, "Personal Values, Job Satisfaction, and Job Behavior," in Man in a World at Work, ed. by Henry Borow (Boston: Houghton Mifflin Co., 1964), pp. 341-360.

and willingness to undertake concomitant education and training. Garbin also found that participation in actual experience in student-selected occupations had a stronger positive effect than school laboratory experiences upon job satisfaction and worker adjustment.⁴³

Much of the current literature and research implies and indicates that the schools must more widely implement various forms of cooperative education. Over the years, and despite some serious obstacles, cooperative programs have been developed by some high schools. Cooperative education has demonstrated the idea which is becoming widely understood and accepted, that no vocation can be totally mastered in a school setting. The need for a sequential relationship between the learning of concepts, the development of habits and attitudes, and the mastery of skills in the real work setting has come to be identified and accepted by most educators, and even championed by a growing cadre of others.⁴⁴ The concept of cooperative work education as a means of providing relevancy, reality, and pragmatism to the schooling of dropout-prone and educa-

⁴³A.P. Garbin, Jerome J. Salomone, Dorothy P. Jackson, John A. Ballweg, Worker Adjustment Problems of Youth in Transition from High School to Work (Columbus, Ohio: The Center for Vocational and Technical Education, Ohio State University, 1970), pp. 3-9.

⁴⁴Ralph E. Mason and Peter Haines, Cooperative Occupational Education (Danville, Illinois: The Interstate Printers and Publishers, 1965), p. 6.

tionally disadvantaged youth has become a cornerstone of many successful programs. The success of this format in the Neighborhood Youth Corps in-school program has been widely reported as an exemplary model.⁴⁵

The Definition of Cooperative Education

Considerable confusion has been reported, even among educators, state department of education personnel, and lawmakers, concerning the definition of cooperative education. The most common confusion exists between cooperative education and work-study programs, which are distinctly different, especially in the view of the laws relating to vocational education. According to Mason and Haines, cooperative education is based on the career objectives of the student, and the work situation serves as the occupational laboratory to which the classroom instruction is directly related. In nearly every case the student receives both financial payment and academic credit for his occupational training, which is consistently supervised by the school.⁴⁶

The Vocational Education Amendment of 1968 (P.L. 90-576) defines cooperative education as an educational program

⁴⁵M. Sadofsky and S. Sadofsky, Youth Work Programs (New York: Center for the Study of Unemployed Youth, Graduate School of Social Work, New York University, 1966), pp. 11-12.

⁴⁶Mason and Haines, Cooperative Occupational Education, p. 49.

in which students alternately attend school and work in positions related to their vocational studies. Students must be compensated in accordance with applicable laws and regulations.⁴⁷ An essentially identical definition of cooperative education is stated by Butler and York in their report on cooperative vocational education.⁴⁸

A Brief History of Cooperative Education

Rupert Evans has reported that work-study education was practiced in England in the mid-nineteenth century with no adverse effect upon the students. It was not until the early 1920's that the University of Cincinnati became the first U.S. institution to develop a program which incorporated employment into the curriculum; the school of engineering had students employed in engineering-related occupations. During the 1930's some secondary schools in the South developed cooperative education programs for high school students for the first time.⁴⁹

⁴⁷U.S. Department of Health, Education, and Welfare, The Vocational Education Amendments of 1968 (Washington, D.C.: Government Printing Office, 1969), p. 5.

⁴⁸Roy Butler and Edwin York, What School Administrators Should Know About Cooperative Vocational Education (Columbus, Ohio: Center for Vocational and Technical Education, Ohio State University; August, 1971), p. 1.

⁴⁹Rupert Evans, Foundations of Vocational Education (Columbus, Ohio: Charles E. Merrill Publishing Company, 1971), pp. 193-5.

Mason and Haines have reported early cooperative education programs in distributive occupations beginning in 1905 at Filene's Department Store in Boston. Other distributive education programs in Providence, Rhode Island and Fitchburg, Massachusetts quickly followed. By 1924 distributive education programs were established, at least for adult education classes, in Omaha, Nebraska; Rochester, New York; Cincinnati, Ohio; Logansport, Indiana; and Galesburg, Illinois. It was not until 1931, however, that the Smith-Hughes Act of 1917 was interpreted to permit funding for the organization of part-time classes for high school youth who were employed after school in distributive occupations.⁵⁰

The development and growth of cooperative education programs is very closely related to the various legislative acts pertaining to vocational education. The expansion of cooperative education is directly related to the financial provision made for it in the several laws. The trend of the legislation has been increasingly favorable to cooperative education; however, there has been resistance by vocational educators who have inferred that an expansion of cooperative education would mean a reduction in funding, influence, and importance for the in-school programs with which they are involved.⁵¹

⁵⁰Mason and Haines, Cooperative Occupational Education, pp. 32-3.

⁵¹William J. Schill, Concurrent Work Education Programs in the Fifty States, 1965-66 (Washington, D.C.: Bureau of Research, Office of Education, 1967), pp. 13-17.

Although the Smith-Hughes Act of 1917 had been interpreted to permit funding of cooperative education, it was not until the George-Dean Act of 1936 that cooperative education was specifically provided for in the text of the law. The provisions of this act and of the George-Barden Act of 1946 were limited, however, and it was not until the Vocational Education Act of 1963 that all the broad forms of cooperative education were provided for. The 1963 act authorized federal funds to train persons attending high school and, most notably, to support special vocational programs for handicapped students.⁵²

A study of the effectiveness of the Vocational Education Act conducted by the National Advisory Council on Vocational Education revealed that funds were insufficient and expansion was not rapid enough to adequately serve students with special needs--the disadvantaged youth in rural and urban areas. The study also revealed residual reluctance on the part of state and local agencies to fully implement many provisions of the act. Largely as a result of the Advisory Council's study, the Vocational Education Amendment of 1968 was passed to correct reported weaknesses in the 1963 act. Highest priority was given to the training and educational needs of the disadvantaged and to cooperative

⁵²Grant Venn, Man, Education and Manpower (Washington, D.C.: The American Association of School Administrators, 1970), pp. 153-55.

education.⁵³

As a result of the support for cooperative education by the recent legislation, there has been a large increase in the number of students enrolled in this form of vocational education. Precise statistical evidence is inconsistent; however, the trend is well-established and clear that the 1968 amendment has already had a greater effect on the expansion of cooperative education programs than all other previous legislation.⁵⁴

Research Findings Concerning
Cooperative Education

Most research concerned with cooperative education, other than that related to distributive occupations, is of recent origin and concentrates mainly upon urban programs. An underlying assumption which has been implied in most research is that cooperative programs provide a form of education which capitalizes on the strengths of both the school and the community resources. The resulting programs benefit students by identifying student strengths, establishing a pattern of behavior based on successful experiences, and relating classroom instruction to the realistic needs of the occupational training.

⁵³Ibid.

⁵⁴Don Billings, Cooperative Occupational Education Programs--A Conference to Extend the Range of Vocational Education (New York: Division of Teacher Education, The City University of New York, 1970), p. 83.

The economic advantages of cooperative education programs have been widely reported in much of the literature. The Advisory Council on Vocational Education declared that cooperative education showed the highest return on funds invested over any other form of vocational education.⁵⁵ The low-cost factor and high degree of flexibility are features of cooperative education which recommend it for adoption by the smaller high schools. These schools cannot justify capital equipment investment and staff expenditures to make a diverse vocational education program possible. For such schools cooperative education is enthusiastically recommended.⁵⁶

Other advantages of cooperative education have been widely recognized and reported in nearly all of the research and literature. The use and involvement of community resources has been frequently considered an important advantage. The resultant strengthening of school and community relations is an advantage of cooperative education which has been among those most frequently reported by respondents to research surveys.⁵⁷

⁵⁵Rupert Evans, "Cooperative Education--Advantages, Disadvantages, and Factors of Program Development," American Vocational Journal, XLIV (May, 1969), pp. 19-22, 58.

⁵⁶Leroy H. Swenson, "Are Coop Programs Possible in Small High Schools?" American Vocational Journal, XLIV (May, 1969), p. 1.

⁵⁷I.W. Fitzwater, "Co-op Education Fills a Gap in Today's Curriculum," National Association of Secondary School Principals' Bulletin, LII (February, 1968), pp. 80-89.

Kroll has pointed out research which has shown that career identification has strong ties with man's conception of himself. From this evidence Kroll has reasoned that any strengthening of the motivation for self-understanding would reinforce career pursuits. He sees this process as a reflexive one in which the self-concept and career identification each serve as a basis of growth for the other. Kroll endorses cooperative education as an ideal educational structure for this purpose, particularly for those students whose self-confidence is not strong.⁵⁸

Cooperative education has been lauded by a wide range of vocational educators as a source of realistic experience. Feirer has claimed that because of this realism, cooperative education is the most effective means available to the schools to prevent dropouts. He urges an expansion of the practice of cooperative education, particularly for unmotivated or handicapped vocational students.⁵⁹

Research has supported Feirer's claim that cooperative education has effective holding power on dropout-prone youth. Work-study programs, by contrast, have exactly the opposite effect. From the results of research it has been concluded that the correlation of academic classwork with

⁵⁸Arthur Kroll, Career Development: Growth and Crisis (New York: John Wiley and Sons, 1970), pp. 10-11.

⁵⁹J.L. Feirer, "Needed: Work Experience for Vocational Students," Industrial Arts and Vocational Education/Technical Education, LVIII (February, 1969), p. 23.

the needs of the cooperative work experience fosters a desire to remain in school. In work-study programs, where there is no correlation between work experience and academic curriculum content, students frequently opt for full-time work, particularly since they do not identify school offerings with work needs.⁶⁰

Other studies have shown that graduates of cooperative education programs have strong success patterns in obtaining and retaining employment in positions for which they have been trained. The record of these students is superior even to the record of graduates of technical skill programs. Part of this success has been attributed to the fact that most cooperative education students are retained by their cooperating employers after graduation. Another part of this success record has been credited to the positive adjustment to employment which cooperative education students seem to develop as a part of their training.⁶¹

Research and literature abound with reports of advantages for students in cooperative education programs. Kim-

⁶⁰Jacob J. Kaufman, The School Environment and Programs for Dropouts (University Park, Pennsylvania: Institute for Research on Human Resources, Pennsylvania State University; August, 1968).

⁶¹Peter G. Haines and Lawrence Ozello, How High School Cooperative Trainees Fare in the Labor Market, Phase C, A Follow-up Study of 1964 Graduates Ten Months After Graduation (East Lansing, Michigan: College of Education, Michigan State University; Lansing, Michigan: Michigan State Department of Public Instruction, 1966).

brell and Pilgeram have made a very strong case in support of cooperative education as a means of causing students to relate education to occupational interests at a period in life when it is natural for students to look inside the school for learning and earning opportunities. They have insisted that cooperative education assists student identification with a vocation, motivates academic effort, and provides a relevant framework for learning.⁶²

Professor Norton has made a similar but stronger case in his writing. He has advocated varying degrees of cooperative education for all students in the high school. He has reported his belief that an active involvement with a career or a variety of careers would serve all high school students to good advantage in the development of their autonomy and self-reliance. Participation in cooperative education develops students' self-confidence, decision-making skill, and self-esteem, Norton argues. He also feels that cooperative education students are more sympathetic and appreciative members of society.⁶³

Bysbers and Moore have reported the advantages of cooperative education as a medium for effective vocational

⁶²Grady Kimbrell and Marilyn Pilgeram, "Work Experience Education: An Answer to the Question, Who Am I?" Journal of Secondary Education, XLV (May, 1970), pp. 205-8.

⁶³D.L. Norton, "Rites of Passage from Dependence to Autonomy; Self-Discovery," School Review, LXXIX (November, 1970), pp. 19-24.

counseling. Their results showed that cooperative education students are better equipped than other vocational students to comprehend the implications of vocational choice as a result of their work experience; moreover, they are better able to refine career options realistically. Bysbers and Moore's findings also indicate that cooperative education students are less antagonistic toward authority and more willing to cooperate with guidance efforts than are the other vocational students.⁶⁴

Similar results were found by Osipow and Gold, who reported that students who are involved with cooperative work experience and have identified with an occupational role are better adjusted, less anxious, academically more motivated, and enjoy a higher self-concept than do matched control group subjects who have not selected a career. This study of high school seniors identified a "halo effect" by which cooperative education students shared in the qualities which were ascribed to their occupational titles.⁶⁵

While most research supports cooperative education as an ideal marriage of school and community resources, those who have directed cooperative programs have also reported

⁶⁴N.C. Bysbers and E.J. Moore, "Cooperative Work Experience as a Guidance Setting," American Vocational Journal, XLIII (December, 1968), pp. 16-17.

⁶⁵S.H. Osipow and J.M. Gold, "Personal Adjustment and Career Development," Journal of Counseling Psychology, XV (September, 1968), pp. 439-443.

several weaknesses in this linkage. A variety of sources have reported that cooperative education students are among the first employees to be laid off in periods of economic recession. These sources also reported that placement of students in occupations which are locally controlled by labor unions can be at best frustrating. The sources noted have found that the establishment of cooperative education opportunities in what are locally considered unorthodox occupations can be difficult if not impossible. Finally, the sources report a very low incidence of student exploitation by cooperating employers, but at the same time, they report occasionally unrealistic levels of expectancy for productivity from some employers.⁶⁶

Prediger conducted research to determine the behaviors which could be utilized as predictors of success in high school vocational programs. He found that interest and identification in a career and school attendance were reliable predictors. He also found that in cooperative education students, these program-success-indicators consistently improved; however, these indicators frequently fell off for students enrolled in other vocational programs.

⁶⁶D.L. Mason, "School-Work Programs: the Vocational Education Act in Action," The Clearing House, XLII (January, 1968), pp. 294-96; R. Hutchins and R.W. Stadt, "Understanding Cooperative Education," Educational Forum, XXXIV (May, 1970), pp. 541-45; H. Huffman, "Cooperative Vocational Education, Unique among Learn and Work Programs," American Vocational Journal, XLIV (May, 1969), pp. 1-7; Rupert Evans, "Cooperative Education," pp. 19-22.

Prediger concluded that while interest, identification, and attendance are accurate predictors of vocational program success, cooperative education has a greater self-reinforcing effect on the predictors than other vocational programs have.⁶⁷

From a survey of research and literature a fairly consistent trend seems to have appeared. High schools have increasingly adopted cooperative education as a pragmatic solution to the problem of providing for the needs of vocationally inclined students. This trend has been particularly apparent since the passage of the 1963 and 1968 Vocational Education Act and Amendment. The advantages for both the school and the student have been reported by Draper, who recommended cooperative education as the backbone vocational program for comprehensive high schools.⁶⁸

In a similar study, Smith found that an overwhelming majority of high school principals recognized a need for vocational education in the comprehensive high school; moreover, these principals identified a need for all students to experience some contact with vocational training. They identified cooperative education as the most feasible

⁶⁷D.J. Prediger, "Predictors of Success in High School Vocational Education Programs," The Personnel and Guidance Journal, XLVII (October, 1968), pp. 37-45.

⁶⁸D.C. Draper, "Vocational Education and the Comprehensive High School," National Association of Secondary School Principals' Bulletin, LI (May, 1967), pp. 107-120.

and realistic form of vocational education which could be offered in the comprehensive high school.⁶⁹

More recently, and largely as a result of the 1968 Vocational Education Amendment, there has been a rapid growth in the number of cooperative education programs designed to aid educationally disadvantaged and handicapped students in urban settings. There appears to be agreement among researchers that cooperative education can provide an agreeable combination of components to meet the needs of these students.⁷⁰

A study conducted by Bernstein in 1968 assessed the effect of cooperative education on the work values, academic achievement, and personal adjustment of a group of twelfth grade, urban disadvantaged youth. Bernstein found a low but positive correlation between the variables, but he identified extremely low initial levels of the dependent variables and a short duration for the study as limiting factors on the internal validity of his results.⁷¹

⁶⁹John Arthur Smith, "Vocational Education in the Comprehensive High School," Dissertation Abstracts, XXVI (1965), pp. 31-34.

⁷⁰Thomas L. Hilton, A Study of Intellectual Growth and Vocational Development (Princeton, New Jersey: Educational Testing Service; March, 1971), pp. 88-9.

⁷¹Bruce Bernstein, "A Study of the Work-Values of a Group of Disadvantaged High School Boys in a Cooperative Education Program," Dissertation Abstracts, XXIX (1969), p. 2512a.

Similar results were found by Schneider in his 1971 study. Schneider measured the effect of participation in a cooperative education program on nine characteristics of student behavior, including self-acceptance, attitude toward school, attendance, and parents' interest in school. The results showed either no significant change in behavior or very low levels of significance in all categories except self-esteem and attitude toward school which significantly improved. Some change was found in all nine behavior categories, however, and Schneider interpreted this positive trend as important despite a lack of statistical significance.⁷²

In the results of many urban cooperative education studies the effect of program participation is barely or less than significant. Researchers have attributed this condition to extremely low levels of the dependent variables at the outset of research. Ullery went a bit further and conducted research which shows that most cooperative education programs deny admission to the students who could best be served by them. In a comparison of admitted and non-admitted students, Ullery observed that admission is frequently based on class, race, sex, attendance, department, and achievement. He found that in most programs lower class,

⁷²Stanley Schneider, "The Effect of Work-Study Programs on Certain Student Behaviors," Dissertation Abstracts, XXXII (1972), pp. 3884a-3885a.

minority students who have low achievement and poor attendance records are denied enrollment for a variety of stated reasons. Ullery has charged that the students who are denied admission to cooperative programs are those for whom the programs were originally designed, developed and funded.⁷³

Cooperative education, while not a new idea, appears to be entering a new phase of development. It has been identified as a potentially effective form of education for urban, disadvantaged and handicapped youth. The National Advisory Council on Vocational Education has called cooperative education a "sleeping giant ... undoubtedly the best program available in vocational education."⁷⁴ These observations combined with the modest but promisingly positive results of research, lend support to the belief that cooperative education can effectively serve those youth who need vocational education more for the satisfaction of self-esteem needs than for the basic physiological needs.

⁷³Jesse W. Ullery, "A Comparative Analysis of Selected Student Characteristics on Vocational Cooperative Programs," Dissertation Abstracts, XXXII (1972), pp. 4502a-4503a.

⁷⁴U.S. Department of Health, Education and Welfare, Office of Education, Resource Manual 71 for the Development of Cooperative Vocational Education Programs under the Vocational Education Amendments of 1968 (Washington, D.C.: Government Printing Office; November, 1970), p. 1.

C H A P T E R I I I

DESCRIPTION OF THE MARTHA'S VINEYARD REGIONAL HIGH SCHOOL COOPERATIVE VOCATIONAL EDUCATION PROGRAM

Chapter three is an historical narrative of the background inception, planning, organization, implementation and modification of the cooperative education program for diverse occupations at Martha's Vineyard Regional High School. This narrative includes the identification and description of the major actors and events which were influential to the program. Special attention is provided to the description of those socio-economic and geo-political factors which cause the program to be relatively unique.

Geo-political and Socio-economic Description of Martha's Vineyard

The island of Martha's Vineyard is located in the Atlantic Ocean six miles south of Cape Cod. The island is linked by ferry service to Woods Hole, Massachusetts. The service varies in frequency with the season of the year and the vagaries of the weather.

Martha's Vineyard is the largest island in New England and ranges in topography from salt marsh-flats to rolling hills which resemble Scottish moors. The island is roughly triangular in shape, twenty-three miles long and nine miles

wide. Total land area is approximately one-hundred eight square miles. Martha's Vineyard principally constitutes the County of Dukes County. It is further politically subdivided into six towns which are Tisbury, Edgartown, Oak Bluffs, West Tisbury, Chilmark and Gay Head. The first three mentioned towns are referred to as being "down-island", the latter three as "up-island". The down-island towns are the population centers and are the major locations of business activity.¹ Martha's Vineyard Regional High School is located in Oak Bluffs, Massachusetts and is very close to the geographic center of the island.

The six towns constitute a school superintendency union and a regional high school district. Each town retains individual autonomy for elementary education, and several up-island towns maintain two-room schoolhouses. Prior to the regionalization for the high school, which took place in 1958, each of the three down-island towns maintained K-12 educational programs. Considerable town loyalty prevails to the present time. The high school district is not a part of a vocational technical school district.

The population of Martha's Vineyard is slightly over seven thousand and has remained relatively stable over the past ten years. In summer the population swells to nearly sixty thousand. Tourism is the largest single industry on

¹Gale Huntington, An Introduction to Martha's Vineyard (Edgartown, Mass., 1959), pp. 1-4.

the island and provides the economic base for much of the off-season employment for a significant segment of the island labor force. Local industry includes the building trades, boat building, fishing, retail trades, hotel and restaurant enterprises, and tourism-related businesses.²

A considerable segment of the labor force changes occupations with the seasons of the year. Partially as a result of this condition, the population was recorded as having the lowest family income of any county in Massachusetts in the 1960 census. Many island children have minimum exposure to life off-island, and this factor has limited the occupational alternatives available to high school graduates.³ Consequently the prevailing socio-economic cycle has been perpetuated rather than changed.

Early History of Vocational Education on Martha's Vineyard

Prior to the formation of the regional high school district in 1958, each of the down-island towns maintained separate high schools. During the 1930's and 1940's two of these towns provided state-aided trade programs, to train

²Massachusetts Department of Commerce and Development, Monograph, County of Dukes County (Boston, Mass.: 1970), pp. 1-4.

³Rex B. Jarrell, Jr., Assistant to the Superintendent, "General Statement about the Island School System." Memo prepared to describe the local school system to universities, Oak Bluffs, Mass., October 2, 1972.

students in several of the building trades. Programs in carpentry in Tisbury and electricity in Oak Bluffs were offered and were based on in-school skill training and apprenticeship assignments in the community. While the programs met all state requirements as established for trade schools, the numbers of students involved and the sizes of the schools in which the programs were offered became factors which caused the termination of both programs in 1950.⁴

In 1954 efforts were begun to create a regional high school district. The Martha's Vineyard Regional High School became a reality in 1958 and was opened to students in the fall of 1959. Among the originally stated purposes of the regional high school was the provision of vocational education suitable to the needs of the island youth. Several factors prevented this purpose from being immediately fulfilled. The expense created by the construction of the new school prevented the staffing and equipping of vocational programs. Furthermore, the era of Sputnik and the space race detracted the attention of educators from vocational education toward an emphasis upon improved academic programs.

In 1963, Mr. Charles A. Davis, principal of the high school, secured permission from the regional high school district committee to implement a work-experience program.

⁴Report of the Superintendent of Schools, Annual Report, Town of Tisbury, Massachusetts (Tisbury, Massachusetts: 1950), p. 77.

Under this program a limited number of eleventh and twelfth grade boys were provided with regular classes which were scheduled during morning hours so that they could be released from school to seek afternoon employment. No provision was made to coordinate classwork with work experience, nor was academic credit awarded for the work experience. Students who were selected for this program had been identified by guidance counselors and teachers as being vocationally inclined and drop-out prone. This program was continued until 1969 with varying degrees of success.

The Embryonic Development of Cooperative
Vocational Education at Martha's
Vineyard Regional High School

During the school year 1968-69 a number of teachers, counselors and administrators began to recognize a need for expanded vocational education opportunities for students at the regional high school. Although the work-experience program permitted older students to leave the school, their numbers were limited, and there was little relationship between academic study and vocational experience. The incidence of student discipline infractions had appeared to occur more frequently, and teachers increasingly reported a lack of student motivation. Mr. Charles Davis, principal; Mr. Joseph Robichau, assistant principal; Mr. John Ahearn, guidance counselor; and Mr. Sherman Hoar, teacher, all of the regional

high school, met in the late winter of 1969 to analyze the situation.

As a result of the original and subsequent meetings, several conditions were identified as contributing causes of student dissidence and lack of motivation. Much of the curriculum content was identified as inappropriate to the needs, interests and abilities of a sizeable segment of the school population. The academic environment of many classes was recognized as a source of frustration to students who harbored a failure syndrome but who had demonstrated ability in activity learning situations. It was generally agreed that some form of vocational education was necessary at the Martha's Vineyard Regional High School.

In response to the need which had been recognized, Mr. Davis appointed a planning committee of interested teachers and administrators to develop a curriculum which would be suitable for vocationally inclined students. The planning committee, which first met on April 29, 1969, included: Mr. Charles Davis, high school principal; Mr. Joseph Robichau, assistant principal; Mr. Sherman Hoar, social studies teacher; Mrs. William McChesney, reading teacher; Mr. Michael Zoll, science teacher; and Mr. Herbert Custer, mathematics teacher. The first task of the planning committee was to identify the characteristics of students who were

not then being adequately served by the curriculum offered by the school. The planning committee established a typical student profile as follows:

1. At least one year behind grade level.
2. Poor attendance records.
3. Achievement significantly below grade level in mathematics and reading.
4. Demonstration of a failure syndrome (habit of refusal to try based on anticipation that result will be at failure level).
5. Manifestation of low self-esteem.
6. Exhibitions of active dislike of school.
7. Vocationally inclined--demonstration of highest levels of achievement of activity learning (manual skills sources).
8. Record of frequent discipline infractions.
9. Categorized by teachers as uncooperative, inattentive and unmotivated in the available school setting.

With the profile of a typical student in mind, the planning committee began the task of developing a curriculum which would be appropriate for the students which it would serve. Mr. Robichau, the assistant principal, and Mr. Hoar accepted the task of structuring the academic course work of students so that necessary basic education would be provided. Mr. Davis accepted the responsibility to arrange vocational apprenticeship assignments for involved students. Mr. Zoll, Mr. Custer, Mr. Hoar, and Mrs. McChesney agreed to develop

curriculum content in their respective subjects which would relate closely to the interests of vocational students.⁵

At a subsequent meeting of the planning committee it was established that students would attend classes in reading, mathematics, science and social studies during the morning and would be employed by cooperating employers in the afternoon. Forty-two students had been identified as potential enrollees. These students were to be separated into four ungraded groups whose membership would be based on personality compatibility with other students in the same group. To some degree group membership was also to be based on reading ability. All four groups were to be provided with similar curriculum content; however, considerable individualized instruction was to be provided. The planning committee decided to adopt a pass-fail system of grading. It was additionally planned that all teachers and students involved with the program would be scheduled to permit large group meetings of all classes for the entire morning, for field trips or team-teaching activities, without conflict with the activities of the rest of the school.⁶

On June 8, 1969 Mr. Davis presented the proposed pro-

⁵Martha's Vineyard Regional High School, Minutes of Meeting of Ungraded Study Program Planning Committee, April 29, 1969.

⁶Martha's Vineyard Regional High School, Minutes of Meeting of the Ungraded Study Program Planning Committee, June 2, 1969.

gram to the Martha's Vineyard Regional High School District Committee and secured its approval.⁷

On June 9, 1969, the planning committee met to complete details necessary to implement the program with the opening of school in September. At this meeting, the concept of an alternative school environment was first specifically identified. The characteristics of the students to be served were reviewed, and the objectives of the program were loosely identified. Through discussion, the many objectives were analyzed and synthesized into four principal categories. These objectives were:

1. To provide vocational training and education suitable to the interests and abilities of each student.
2. To improve the academic achievement of each student, especially in reading and mathematics.
3. To develop the human potential via improvement of the self-concept or self-esteem of each student.
4. To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, teachers, and administration.

These objectives were compared with the planning which had been done, and it was agreed that the plans would serve the objectives.⁸

⁷Martha's Vineyard Regional High School, Minutes of Meeting of the Martha's Vineyard Regional High School District Committee, June 8, 1969.

⁸Martha's Vineyard Regional High School, Minutes of Meeting of the Ungraded Study Program Planning Committee, June 9, 1969.

During the summer of 1969 the administration of the regional high school engaged in planning to implement a special education program for the opening of school in the fall. Mr. Davis, principal; Mr. Robichau, assistant principal; and Mrs. Rose Anthony, special education teacher, met several times in July and recognized that the objectives of the special education program could be best met if the special education and the cooperative education program which had been planned, were merged into a single program. Mr. Davis subsequently contacted the cooperative education teachers, and that program was revised to include Mrs. Anthony as a teacher of reading and communication skills. The special needs students were integrated into the program; this increased the number of students to fifty-one.

On August 28, 1969 Mr. Davis convened a meeting of the Work-Skills Advisory Committee which was primarily constituted of cooperating employers for the cooperative education program. Ten members of the advisory committee met with Mr. Davis, Mr. Robichau and Mrs. Anthony in the regional high school library to identify work-experience stations for the students in the program. Vocational training apprenticeships were arranged for all but seven students in the building trades, boat building, hotel and restaurant industry, landscape gardening, retail trades,

trucking, building supply, automotive mechanics, and clerical occupations. Those students not placed with employers had been identified as inadequately prepared to derive benefit from work-experience.

Since Mrs. Anthony was to be employed as a teacher on a half-time basis, she agreed to accept the additional responsibility of initially coordinating the work-experience and in-school aspects of the program until it was operating smoothly.⁹

The Operational Development of
Cooperative Vocational Education

During the fall of 1969 the work-experience program operated largely as it had been planned, with some modification and refinement. Four ungraded groups of students attended school for morning classes in reading-communication skills, social studies, mathematics and science. The students were transported by school bus at noon to the down-island towns where cooperating employers met student trainees for employment during the afternoon. Mrs. Anthony supervised the transportation arrangements and called on employers to determine levels of student work performance.

⁹Martha's Vineyard Regional High School, Minutes of the Meeting of the Martha's Vineyard Regional High School Work-Skills Advisory Committee, August 28, 1969.

Several weaknesses in the school program which were corrected included provision for industrial arts training for boys and home economics for girls. Class time for these subjects was provided by releasing students from academic classes for one hour twice a week. This time was utilized by the teachers to engage in planning to integrate curriculum content between subjects and with the vocational interests of students.

On October 7, 1969 a meeting of the teachers of the work-experience program was held to discuss problems which had been emerging. Mr. Davis, Mr. Robichau, Mrs. Anthony, Mrs. McChesney, Mr. Zoll, Mr. Hoar and Mr. Custer identified and discussed the following:

1. A lack of appropriate vocation-related curriculum materials.
2. A lack of adequate coordination between the school and employers.
3. The inconvenience reported by employers in meeting students at pick-up points.
4. The inadequacy of afternoon employment as a work-skill training period for students.
5. A reduction of available work-experience situations caused by the seasonal nature of some businesses.
6. The inability of some immature students to honor the responsibility of a commitment to an employer.

It was decided that solutions for the problems outlined would be sought by working through key members of the advisory committee to obtain trade manuals and journals as sources of curriculum materials. It was also decided to contact parents to seek greater assistance and support in encouraging students to meet employment responsibilities.

Students who had demonstrated immaturity were identified, and a provision was made to either deny work-experience opportunities to these students or to provide work-experience assignments which were connected with the school. Such assignments included work as assistants in the school cafeteria or to the custodian.¹⁰

In mid-October of 1969 Mr. Lawrence Richardson, guidance counselor at Martha's Vineyard Regional High School, telephoned Mr. Ghernot Knox of the Massachusetts Department of Education, Division of Occupational Education in Boston, to determine the qualifications necessary to obtain reimbursement from vocational funds for the existing work-experience program. Mr. Knox responded in a memo and guidelines, dated October 21, 1969, which specified the requirements which must be met by cooperative education programs for diverse occupations to qualify for

¹⁰Martha's Vineyard Regional High School, Minutes of the Meeting of the Martha's Vineyard Regional High School Work-Experience Program Committee, October 7, 1969.

vocational reimbursement.¹¹

During November of 1969 Mr. Richardson prepared, and on December 8, 1969 submitted, an application for approval of a cooperative vocational education program to the Division of Occupational Education. The application described the existing work-experience program and provided for modifications which would cause the program to conform to state guidelines. Among the modifications were:

1. Provision for a full-time coordinator.
2. Provision for daily classes in vocational skill training related to the occupational assignment of each student.
3. Provision for pre-vocational training for students who were emotionally and/or vocationally immature.
4. A renaming of the program as the Martha's Vineyard Regional High School Core Program.

The application was approved on December 15, 1969 by the Massachusetts Department of Education, Division of Occupational Education, to be effective February 1, 1970.¹²

¹¹Memorandum from Ghernot L. Knox to Lawrence A. Richardson, October 21, 1969.

¹²Letter to Mr. Charles A. Davis, Principal, Martha's Vineyard Regional High School; from Mr. Ghernot L. Knox, Assistant Director, Division of Occupational Education; dated December 15, 1969.

The Final Refinements and Operation
of the Core Program

During January of 1970 the teachers who had been involved with the work-experience program and the school administration worked to reschedule classes to include the additional requirements to conform to state guidelines. Students were regrouped to provide for a class section of students who had been identified as unqualified to participate in cooperative vocational training. A special curriculum was designed to provide vocational skill training in the school for these students, and to provide them with an awareness of the responsibility required of participants in cooperative work assignments.

On February 1, 1970 Mr. Herbert Custer became the full-time coordinator of the Core program, and Mr. Walter Morris was employed as Mr. Custer's replacement as a mathematics teacher. During the ensuing months of the school year the coordinator and the teachers of the Core program met regularly to discuss refinements which were recognized as necessary to improve the program. Among the recommended refinements were:

1. The reorganization of school and work assignment on an alternate week basis.
2. A regrouping of students into those participating in cooperative employment and those preparing for cooperative employment.

3. A closer relationship between curriculum materials utilized in academic classes and the vocational interest of each student.
4. The establishment of a policy that grade nine students participate in a general studies or pre-Core program to become adjusted to the high school environment.
5. The establishment of a policy that students be required to apply for enrollment in the Core program, be interviewed and screened, so as to eliminate students who are not seriously vocationally inclined.
6. The provision for greater opportunity for Core students to participate in elective courses and extra curricular activities.

Plans were made to implement these refinements with the opening of school in September 1970.

In April of 1970 a school-wide announcement was made which notified interested students that application must be made if enrollment in the Core program was desired for the following school year. Twenty-three students from grades nine and ten applied, and the applications were screened to identify those who would not benefit from participation in the program. This procedure had two purposes: to eliminate those students who envisioned the Core program mainly as a chance to be released from school, and to impress students who were selected that the program was serious in its intent to provide vocational education for those who sincerely desired it. Of the twenty-three applicants, fourteen students

were admitted. Of those rejected, six enrolled in the college preparatory program.

In June of 1970, fifteen students graduated and received diplomas. Four of the graduates were accepted in vocational programs at the Barnstable Regional Vocational Technical School. Seven graduates continued employment on a full-time basis with the employers with whom they had been apprenticed during the school year. Two graduates entered the military services, and two sought employment off-island in the fields in which they had been trained.¹³

During the summer of 1971 the coordinator contacted cooperating employers to secure curriculum materials for use in the academic courses and to arrange training assignments for students. Students were regrouped to permit school attendance and cooperative employment on an alternate week basis. Class schedules were designed to permit students to participate in specific vocational skill development training during the in-school periods and to permit students to select elective subjects likely to be of interest. A class in typing was also provided for all Core students beginning with the fall of 1970.

The original objectives of the program were reviewed by the Core teachers and the coordinator to determine their

¹³Martha's Vineyard Regional High School, Core Program - End of Year Report, June 21, 1970.

continued validity and to determine procedures of attaining them. At a Core meeting on September 7, 1970 it was decided that the original objectives of the work-experience program remained valid, and the policies and practices which had been in effect were stated or restated as follows:

1. Academic classwork should be related closely with individual student vocational interests.
2. Vocational skill training should be related to individual student needs.
3. A pass-fail system of grading will be employed.
4. Students will be encouraged to recognize individual capabilities and encouraged to view themselves as potentially successful.
5. Inter-student cooperation should be encouraged to develop positive attitudes toward team effort and mutual aid--more able students assist less able students to learn.
6. The development of positive attitudes toward self, work and school should be considered as important as cognitive development.
7. Individualized and small group instruction should be practiced whenever possible.
8. Cooperative planning between teacher and students should be practiced to involve students and to provide students with experience in making choices which affect them.¹⁴

With the opening of school in September 1970, the Core program was organized into the basic form which it retains to the present. This form of organization provided an un-

¹⁴Martha's Vineyard Regional High School, Minutes of Core Program Faculty Meeting, September 7, 1970.

graded curriculum for students in grades ten, eleven and twelve. All students were placed in three sections, one in which students were not involved in work experience and attended school every week. The curriculum for this non-working section consisted of classes in communication skills, mathematics, social studies, science, typing, basic vocational skill training and physical education. Non-working students were encouraged to elect additional subjects of interest.

The two remaining sections alternated school attendance with work experience on a weekly basis. Frequently a student from one of the working sections held a work assignment for the week that his counterpart from the other section was in school. In this manner one cooperating employer trained two students.

The two sections of working students were further divided into two instructional groups. This subdivision permitted small groups of less than ten students for most academic subjects. The curriculum for working students included communication skills, mathematics, social studies, science and advanced vocational skill training in specialized trades.

During the 1970-71 school year the Core program served forty-eight students from grades ten, eleven and twelve.

Thirty-six students participated in vocational training in occupations which ranged from bank clerk to surveyor's apprentice.

With the beginning of the 1970-71 school year the program coordinator scheduled curriculum development meetings on a regular basis, arranged for periodic advisory committee meetings and scheduled a group meeting of parents of Core students in early October. In addition, the coordinator established his role as program administrator, counselor to Core students, and as the curriculum development leader for the Core teachers.

Through this last function the coordinator and the Core teachers adopted the policy endorsing performance criteria rather than formal written tests as the determining factors of student grades. The policy of pass-fail grading was retained. In effect, students were required only to attend classes and to demonstrate effort to learn commensurate with ability in order to earn a passing grade.

The practice of individualizing instruction to suit student vocational interests and abilities was continued. Efforts were made to offer curriculum content which was appropriate for individual students or small groups of students at a pace which was comfortable without creating boredom. This latter practice proved to be difficult to main-

tain; however, teachers structured small groups within classes and analyzed individual student abilities in order to organize classes to closely approach the objective.

On October 13, 1970 a meeting was held to which all parents of Core students were invited. Twenty-two of a possible forty-six parents attended. The purpose of the meeting was to more directly involve parents in the Core program. Parents were invited to offer mini-course instruction in hobbies or crafts in which they had skills or interests. Partly as a result of this overture, a course was subsequently developed and offered in fish and game cooking, wherein students provided the ingredients, and parents, in cooperation with the home economics teacher, instructed and assisted Core students in the preparation of interesting family recipes.

Another purpose of the Core parents meeting was to familiarize parents with the organization, policies and objectives of the Core program and to enlist the aid of parents in supporting the self-confidence of students, particularly those who participated in cooperative work experience and who were out of contact with the school for as much as a week at a time. Parents were asked to express a greater interest in student activities, both at school and at work, and to offer encouragement when it appeared to be

needed. Parents were urged to contact teachers and the coordinator at any time, night or day, in order to maintain two-way communication between the school and the home.

It was also agreed at the parents meeting to institute the practice of reporting student progress by written individualized comments rather than by pass or fail grades alone. These reports were thenceforth sent by mail each quarter in place of the standardized report cards employed by the rest of the school. In addition parents were encouraged to contact teachers and the coordinator for informal telephone reports at interim intervals. This practice proved to be warmly received by parents, several of whom commented that they welcomed the opportunity to be more directly involved in the education of their children.¹⁵

The practice of an annual group meeting of Core parents was continued in subsequent years.

Throughout the 1970-71 school year the Core program coordinator and teachers met regularly to develop and refine curriculum content which was appropriate to the needs of the students in the program. Since each of the academic subjects was to be based upon materials related to student vocational interest and involvement, it was required that

¹⁵Martha's Vineyard Regional High School, Minutes of the Meeting of the Martha's Vineyard Regional High School Core Parents Meeting, October 13, 1970.

much of the instructional material be designed and written by the teachers.

The content of the course in communication skills based reading instruction upon newspapers, magazines, and manuals and journals collected from participating employers and members of the Core advisory committee. As a result of feedback from cooperating employers, provision was made for the practice of verbal communication through role playing. Lists of esoteric trade-related words and phrases were utilized in spelling exercises, and considerable attention was given to the development of listening skills. Experience was also provided in following both written and verbal directions. Frequently these exercises were practiced through a game format which was developed by the teacher.

The social studies curriculum which was developed utilized a pragmatic approach and incorporated units which were of concern to students as potential trade practitioners. Local government with an analysis of the responsibilities of elected officials was developed through mock elections, interviews, and field trips. A study of the courts and the law included provisions for students to accompany police officers on patrol, to visit court in session, and to hear speakers who included lawyers and law enforcement officers. Land records, principles of taxation,

procedures required to obtain licenses in the trades, and procedures required to obtain various municipal permits were also included in the social studies curriculum.

The development of the curriculum for mathematics instruction required the creation of a wide variety of vocation-related exercises. A series of worksheets were written by the instructor which provided for the practice of mathematics skills as they related to the major trades. The range of student abilities in mathematics was found to be exceptionally broad. Feedback from cooperating employers was utilized to focus the mathematics instruction of individual students upon skill development which would be practiced in work experience situations. Several students who were apprenticed as surveyors' assistants were provided with mathematics instruction which enabled them to perform relatively sophisticated mathematical calculations with a high degree of accuracy.

The curriculum in science was developed to provide life science instruction for students not cooperatively employed and physical science for students who held work-experience assignments. Local plant and animal life, particularly marine life, provided the basis of the life science course. Much of the study was conducted in the field. The physical science curriculum related basic

machines, inorganic chemistry, heat, and the principles of fluids to the vocational applications which were experienced by students in their work situations.

The curriculum content for the vocational shop course was developed in two ways. For students who were not involved in cooperative work experience, vocational shop training consisted of skill development in the use of basic trade tools and trade practices. Vocational training in plumbing, carpentry, electricity, masonry, mechanics and metal work, including welding, was provided. For those students who participated in cooperative work experience, vocational shop training consisted of individualized advanced skill development in the trades in which students were apprenticed. Considerable communication and cooperative planning among the instructor, students, and cooperating employers were required to permit this organization to function smoothly.

At a meeting of the Core program advisory committee on October 20, 1970 the coordinator and the Core teachers explained the refinements which had been made and which were planned for the program, and the aid of the committee was enlisted to support this effort. Members of the advisory committee volunteered to attend vocational shop classes to

assist in the instruction of specialized trade skills. This offer was accepted, and tentative arrangements were made to schedule this assistance. The advisory committee also expressed a willingness to inform the program coordinator of any unusual construction projects which could be the basis for field trips. The advisory committee furthermore agreed to assist the program coordinator to locate cooperative employment situations.¹⁶

During the late fall of 1971, the normal seasonal reduction in available work, coupled with the general economic slowdown, threatened the security of several apprenticeship positions. Contact was made with the Wage and Hours Division, U.S. Department of Labor, in Boston, and permission was obtained to allow students in affected apprenticeships to be paid at less than minimum wages, provided appropriate wage waiver forms were filed with the Department. In this manner several apprenticeships which would have been eliminated were preserved. Because of the availability of minimum wage waivers, and because of the conscientiousness of most student apprentices, the job stability during the 1970-71 school year was actually improved over that of the previous year. In nearly all cases students were retained by employers even through off-season idle months. Generally,

¹⁶Martha's Vineyard Regional High School, Minutes of the Martha's Vineyard Regional High School Core Program Advisory Committee Meeting, October 20, 1970.

during this period employers intensified training efforts in anticipation of utilizing improved student skills during busier periods in the future.

A second meeting of the advisory committee was held on May 10, 1971 to discuss the operation of the program which had taken place during the school year and to determine changes which the committee would recommend. The committee expressed approval of the organization and operation of the program and urged that no major changes in format be made. The advisory committee recommended that Core students be encouraged to obtain drivers' licenses before being placed in apprenticeships, since the transportation of students by cooperating employers had persisted as a problem. It was noted that once students attended school on an alternate week basis, it was difficult for them to participate in regular driver education classes to obtain drivers' licenses.

It was announced at this meeting that Mr. Custer, the Core coordinator, would be on leave of absence for advanced graduate study during the 1971-72 academic year and that Mr. Francis Pachico had been appointed as the program coordinator for that period.¹⁷

In June of 1971, sixteen Core students were graduated, and eighteen new applicants were accepted into the program

¹⁷Martha's Vineyard Regional High School, Minutes of the Martha's Vineyard Regional High School Core Program Advisory Committee Meeting, May 10, 1970.

for the 1971-72 school year. Of the sixteen Core graduates, twelve retained employment with cooperating employers, two were accepted in advanced technical training programs at regional vocational technical training schools, and two girls were married and ended employment.

During the spring of 1971 variable modular scheduling had been adopted at Martha's Vineyard Regional High School to be effective in the fall of 1971. Partly as a result of recommendations from the Core advisory committee and partly from the realization that modular scheduling would not best suit the objectives of the Core program, Core classes were scheduled independently of the rest of the school. The Core schedule which had been used during the 1970-71 school year was modified to mesh with modular teacher schedules and was retained for the 1971-72 school year.

During the summer of 1971, Mr. Custer and Mr. Pachico worked closely to develop the Core scheduling and to arrange cooperative employment for Core students for the fall.

Throughout the 1971-72 school year the Core program was organized and operated in much the same manner as it had been during the previous year. Mr. Pachico continued to work with the Core teachers to refine the curriculum which had been developed, and meetings with the advisory committee

were held in October of 1971 and in May of 1972.

On May 16, 1972 a Core Program Career Night was held for students who were interested in enrolling in the Core program and for their parents. The purpose of the Career Night was to inform students and parents of the objectives of the Core program and to permit cooperating employers to describe the career opportunities available in their fields. Nine occupational areas represented included: nurse's aide, upholsterer, surveyor, auto mechanic, electrician, plumber, carpenter, horticulturist, and electronics repairman. Twenty-eight parents and nineteen students attended the Career Night program. After meeting with representatives of the occupations, parents and students met with the coordinator and the Core teachers to discuss the responsibilities which students and parents must accept before students would be enrolled. As a result of the Career Night, seventeen new students were enrolled in the Core program for the next school year.

In June of 1972 ten Core students were graduated, eight of whom remained employed by those who had acted as cooperating employers. One female graduate married and left employment, and one graduate found employment on the mainland in the trade in which he had been apprenticed. During the 1971-72 school year, three students who had been

members of the senior class dropped out of school. This was the largest group of Core students to drop out of school in any year since the program had been offered.

With the completion of the 1971-72 school year the Core program finished its third year as an integral program of study at Martha's Vineyard Regional High School. During these three years the program had been the sole source of vocational education for secondary students living on the island. The program had undergone a series of modifications and refinements, resulting in the program which existed in June of 1972. Since the process of change had been of an evolutionary nature, no provision had been made for assessment of the effectiveness of the program in meeting its objectives.

Summary

The cooperative education program for diverse occupations which was developed and offered to selected students of Martha's Vineyard Regional High School during the period from April of 1969 through June of 1972, progressed through a series of stages which refined the program to closely meet the needs of the students which it served. The vocational training aspects of the program were based on support and as-

sistance from the community. The school program was designed to supplement and support the cooperative vocational training. In-school instruction was highly individualized, and several factors distinguished the Core program as an alternative form of education for those students who were not served by the regular school programs. Performance criteria, activity learning, pass-fail grading, ungraded grouping, and an emphasis upon positive motivation were among the characteristics which identified the Core program.

In the three years of operation addressed by this study, thirty-one Core students were graduated, nearly all of whom remained employed in the occupations in which they had been trained. While in the program, many students explored several occupations before identifying occupations which best suited them. The Core program provided intensive counseling and educational support to all students to ease the transition from school to full-time employment.

The Core program provided the structure for a coalition comprised of the school, parents, and employers who cooperated in the education of students who required an alternative to the regular offerings of the school. In view of the isolated setting and the concomitant limitations of the resources available, the Core program attempted to

offer what was needed. The degree to which the objectives of the program have been met remains to be assessed in later chapters of this study and perhaps remains to be most validly assessed by the future histories of the students who participated in the program.

C H A P T E R I V

DESCRIPTION OF THE METHODOLOGY EMPLOYED TO ASSESS THE MARTHA'S VINEYARD REGIONAL HIGH SCHOOL CORE PROGRAM

The previous chapter has presented a statement of background information and an historical narrative of the Martha's Vineyard Regional High School cooperative education program for diverse occupations. That chronicle has provided the background for the second phase of this study of the Core program: a multifaceted assessment of the degree to which the four major objectives of the Core program have been achieved. The purpose of Chapter four is to describe the research methodologies and procedures which were employed to assess the achievement of the four objectives of the Core program.

During the conceptual development of the Core program the planning committee identified many objectives which were later synthesized and refined into the statements which are presented here. These refined objectives were:

1. To provide vocational training and education suitable to the interests and abilities of each student.
2. To improve the academic achievement of each stu-

dent, especially in reading and mathematics.

3. To develop the human potential via improvement of the self-concept or self-esteem of each student.
4. To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, teachers, and administration.

Since no provision was made for formal evaluation of the objectives in the original planning for the Core program, the research methods used in this study are eclectic and quasi-experimental. It was recognized at the outset that complete baseline data was not available; therefore, de-facto and ex-post-facto measures were identified and utilized to assess changes which indicate the degree to which the objectives were reached. These methods and procedures have been suggested by Belasco and Trice, who urge that all available measures be utilized in the research of field study situations where no provision has been made for evaluation. Belasco and Trice contend that multifaceted research will provide bases for assessment which are relatively more valid and reliable than an approach which addresses only single causation factors.¹

Following is a description of the research methods and procedures which were followed to assess the degree to which each of the objectives was met.

¹Belasco and Trice, The Assessment of Change, pp. 152-4.

Objective Number One

To provide vocational training and education suitable to the interests and abilities of each student.

Assessment Procedures

In order to assess the degree to which the first objective had been reached, several methods and populations were utilized. Two separate research surveys were conducted which involved cooperating employers and parents of Core students. Items from both surveys were identified as pertinent to assessment of the first objective. In addition, unobtrusive indicators were analyzed and compared with the results obtained from pertinent items of the survey research.

The Parent Program Assessment Inventory

The Parent Program Assessment Inventory (Appendix A) is a multi-purpose instrument which was developed by the investigator as a modification of a similar-purpose instrument used to assess the Neighborhood Youth Corps. The original instrument was developed by Educational Testing Service under a contract from the U.S. Department of Labor, Manpower Administration Project No. 41-9-005-32. The modification of this instrument by the investigator consisted of the elimination of inappropriate items and the rewording of items to apply to the Core program. Several of the items in the

PPAI are paraphrases of other items to provide for indications of reliability of parent responses. Several extraneous items have also been included in the PPAI as placebos.

The PPAI was the focal instrument of the one-time-only survey conducted in the late spring and early summer of 1972. Fifty-three parents of Core students were interviewed either by telephone or through personal contact. The interviewer adhered closely to the structure inherent to the survey instrument and recorded the responses of parents to all items. Fifty-three parents were selected, since that number comprised the total population whose children had completed a minimum of two years in the Core program. This criterion was considered essential to provide results which were based on adequate experience for assessment of the Core program.

The responses which were obtained through the Parent Program Assessment Inventory were tabulated by the investigator, and those items which addressed the first objective were set apart and analyzed. The items of the PPAI which were identified as pertinent to assessment of the first objective follow:

1. Do you want Martha's Vineyard Regional High School to provide occupational education for those students who desire it?
2. Do you want your child to receive a vocational or a job-skill education?
7. Do you believe that the Core program is the best education program available for your child?

3. Is your child learning a trade or a vocational skill in the Core program which the regular school program could not provide?
4. Are you relatively satisfied with the education that your child is receiving through the Core program?
5. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you prefer that your child be enrolled in it rather than in the Core program?
8. Do you and your spouse agree that the Core program is the best available course of study for your child?
9. Has the Core program done a good job in providing a useful vocational education for your child?
14. Is your child learning a useful job-skill through the Core program?

The parent responses to these items were grouped according to the relationship which existed between the items, and the responses were interpreted to determine an assessment of the first objective of the program. Items one, two and seven were grouped together since, when considered as a composite, they appeared to reveal a more comprehensive picture of parent opinion than when considered separately. To some degree, these questions had been designed to overlap, and thereby indicate the construct reliability of parent responses. Other items which were considered to be indicators of construct reliability were: item two and item three, item five and item seven, and item nine and item fourteen.

The tabulated parent responses to all items which had been identified as pertinent to assessment of the first objective were analyzed and interpreted either in related groups or singly. Particular attention was given to the reliability of responses to paraphrased items. The results of parent responses to PPAI items were synthesized with other assessment indicators to constitute an overall assessment of the degree to which the first objective of the Core program had been achieved.

The Employer Program
Assessment Inventory

The Employer Program Assessment Inventory (Appendix A) is, like the PPAI already described, a modification of an instrument developed by Educational Testing Service to assess the Neighborhood Youth Corps. The original instrument was created under a contract from the U.S. Department of Labor, Manpower Administration Project No. 41-9-005-32. This instrument was modified by the investigator to eliminate inappropriate items, and to rephrase items to apply more specifically to the Core program. The resulting instrument contains items which paraphrase other items to provide construct reliability. Extraneous items have also been included in the EPAI as placebos.

The EPAI was used as the focal instrument of a one-time-only survey conducted in the late spring and early summer of 1972 by the investigator. Thirty-seven coopera-

ting employers were interviewed either by telephone or through personal contact. The form of each survey interview adhered closely to the structure provided by the instrument, and all employer responses were recorded by the investigator. Thirty-seven employers were selected for the population of this research, since that number had maintained a training-employment relationship with Core students for a minimum of one year. In many cases respondents had acted as cooperating employers for several years and for several different students. The criterion that employers have had a minimum of one year experience with the program was considered essential to the validity of the results.

The employer responses were tabulated and organized by the investigator into groups of related items to permit an analysis which provided a basis for assessment of the first objective of the Core program.

The items of the EPAI which were identified as pertinent to the first objective were:

1. Do you recommend that young people go into your trade or business?
4. Have you been successful in teaching the necessary job skills to your student trainees?
2. Do you believe that on-the-job training is the best method of learning the vocational skills required in your line of trade or business?
9. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you recommend that your student trainee be enrolled in it rather than in the Core program?

3. Are student trainees from the Core program with whom you have worked interested in learning the job skills you have tried to teach?
7. If you had a job opening available, would you hire your student trainee on a full-time basis?
8. Do you believe that the Core program has been a successful method of providing vocational education for students who are interested?

The employer responses to the pertinent items were analyzed for construct reliability, and the following reliability pairings were identified: item four with item three, item two with item nine, and item seven with item eight. Furthermore, item one and item four were tabulated sequentially as were item two and item nine. The rationale for these last pairings rests within the design of the EPAI instrument to maintain single concept items which are simply stated to encourage direct response. The responses to the paired items, when considered collectively, constituted a more comprehensive reply than if the items had been analyzed singly. All employer responses to pertinent items of the EPAI were analyzed either singly or as related pairs, and were interpreted as an assessment indicator of the degree to which cooperating employers believed that the first objective had been met. This assessment was incorporated with assessment results obtained from the PPAI and the unobtrusive indicators.

Unobtrusive indicators

Several unobtrusive indicators were identified and

analyzed to reveal assessment of the degree to which the Core program had met its first objective, to provide vocational education and training suitable to each student. These unobtrusive indicators included a comparison of available Kuder Vocational Preference Scale profiles with the training placement of each student, a review of vocational counseling notes, and informally collected community opinions.

Vocational interest test records

The vocational interest test records which had been collected for Core students were analyzed and compared with the vocational training assignments which had been arranged by the coordinator. Twenty-eight student records of the Kuder Vocational Preference Scale were found on file, and these profiles were analyzed to determine the degree to which students were placed in vocational training which suited their individual needs and interests.

Counseling notes

A review was made of vocational counseling notes concerning vocational preference; these had been recorded by the coordinator during interviews and counseling sessions with students. The information from these notes was compared with the vocational training placement which was arranged under the auspices of the Core program by the co-

ordinator.

Community opinions

Opinions concerning the effectiveness of the Core program as a source of vocational education were gathered from elements of the community other than parents of Core students and participating employers. Members of the Core advisory committee were employed as intermediaries in gathering these opinions. Several members of the advisory committee who are noted for their frankness were informally interviewed to determine the general opinion held by those segments of the community not directly involved with the Core program.

Objective Number Two

To improve the academic achievement of each student, especially in reading and mathematics.

Assessment Procedures

In order to assess the degree to which the reading and mathematics achievement of Core students had been improved, a quasi-experimental, modified time series research design was employed. Achievement test scores for reading and mathematics, as determined by the Stanford Achievement Test, were used as the raw data for the development of Delta scores or rate of change scores which were accepted as more indicative of improvement trends than a gross comparison of

group mean scores.

The population for this research consisted of two groups, a group of Core students who met certain criteria, and a comparison group of students who were matched with members of the Core group with regard for age, sex and I.Q. within stanine. The Core group population was comprised of all Core students who had Stanford Achievement Test scores on record for grades seven, nine and eleven, those who had been enrolled in the Core program for two full years, and those who had not transferred into the Island school system during the period of this study. The comparison group was comprised of students who were matched one-to-one with members of the Core group. Through this process sixteen students were identified for each of the two groups.

Stanford Achievement Test percentile rank scores in mathematics achievement and reading achievement from grades seven, nine and eleven were collected from permanent records for all students in both groups. The accumulation of all raw data was performed by guidance counselors to provide control for investigator bias. The raw data for reading achievement and mathematics achievement were tabulated separately by the investigator and treated with statistical procedures to provide an assessment of the degree of improvement of each of the cognitive qualities.

Reading Achievement

The reading achievement percentile rank scores from grades seven, nine and eleven for the Core group and the matched comparison group were used to compute group mean scores for each of the test years. The group mean scores for grade eleven were subjected to an analysis of variance by means of a "t" test to determine the statistical significance of the data. The period between the end of grade nine and the end of grade eleven coincided with the time period that Core students were enrolled in the Core program.

Rate of change or Delta scores were computed by the investigator to determine the changes which had occurred in reading achievement between the grade seven and the grade nine administrations of the Stanford Achievement Test and between the grade nine and the grade eleven administrations of the SAT. These scores were computed for both the Core group and the matched comparison group. The resulting scores were compared and interpreted for assessment of the changes in reading achievement which had taken place over time and between the groups.

The computation of the Delta scores required applications of the formula:

$$D = \left[\left(\frac{\bar{X}_1 - \bar{X}_2}{\bar{X}_1} \right) (100) \right]$$

Since Core students had been initially selected for admission into the program on the basis of low academic achievement, a direct comparison of Core group mean scores with the group mean scores of the matched comparison group was not considered adequate as an assessment indicator of changes which had occurred in reading achievement. For this reason the Delta scores were computed and accepted as more valid indications of improvement of academic achievement.²

Mathematics Achievement

The methodology employed to assess mathematics achievement closely paralleled that used to assess reading achievement. A modified time series, quasi-experimental design was utilized which incorporated Stanford Achievement Test scores from grades seven, nine and eleven for a group of sixteen Core students and a matched comparison group of sixteen students.

The mathematics achievement scores from grades seven, nine and eleven for the Core group and the matched comparison group were collected from permanent records by guidance counselors and provided to the investigator. This raw data was used to compute group mean scores for each of the test years. The group mean scores for grade eleven were subjec-

²Fred Kerlinger, Foundations of Behavioral Research, p. 309.

ted to an analysis of variance by means of a "t" test to determine the level of statistical significance of the data. The grade eleven scores were chosen for this treatment because the time period between the end of grade nine and the end of grade eleven coincided with the time period that Core students were enrolled in the Core program.

The group mean scores were substituted into the Delta score formula which yielded Delta, or rate of change scores for the between-test periods. Delta scores were computed by the investigator to determine the direction and the rate of change in mathematics achievement which had occurred for both groups for the period between the grade seven and the grade nine administrations of the Stanford Achievement Test and for the period between the grade nine and the grade eleven administrations of the SAT. As with the previously described procedure used to assess reading achievement, the procedure used to assess mathematics achievement relied heavily on the interpretation of Delta scores as indicators of improvement in academic achievement.

Objective Number Three

To develop the human potential via improvement of the self-concept or self-esteem of each student.

Assessment Procedures

Several different research methods have been employed

to assess the degree to which the third objective of the Core program had been achieved. Coopersmith's Self Esteem Inventory was utilized in a modified time series, quasi-experimental four-group design to identify changes in the self-reported de-facto and ex-post-facto student perceptions of self-esteem. To provide a source of contrast, survey research, in the form of selected item responses from the Parent Program Assessment Inventory, was conducted, and results were analyzed to determine parent assessment of improved student self-esteem.

The modified time-series quasi-experimental design

The research procedure which was employed to determine student-reported changes of self-esteem consisted of a modified time series, quasi-experimental design. This design utilized Coopersmith's Self Esteem Inventory (Appendix A) in a modified pretest-posttest situation which involved the entire student body of Martha's Vineyard Regional High School.

Instrumentation

The instrument selected to assess the improvement of self-esteem as reported by students was the Self Esteem Inventory (Appendix A). This instrument was developed by Stanley Coopersmith of the University of California at Davis to measure the level of self-esteem of middle school

and high school students. The instrument has been used with validity with groups ranging in age from nine years to adults. The Self Esteem Inventory is a fifty-item, Thurstone-scale instrument which addresses the subject's self-concept as it has been affected by peers, parents, the school and personal interests. The instrument was standardized in 1959 by the accumulation of results from 1748 subjects, and it has a re-test reliability of .70 over a one-year interval.³

The Self Esteem Inventory was administered to the student population of Martha's Vineyard Regional High School in middle May of 1971 and again in late May of 1972. All data for both administrations of the instrument were recorded on Optical Scanning Corporation, Standard Answer Sheets-form C. The scoring of the answer sheets was performed by the University of Massachusetts Computing Center in Amherst, Massachusetts.

Both administrations of the Self Esteem Inventory followed the same procedure which provided directions and timing by the investigator over the public address system of the Martha's Vineyard Regional High School. All students were administered the instrument simultaneously during homeroom periods which had been scheduled through the cooperation of the school principal. Students had no prior

³Coopersmith, The Antecedents of Self-Esteem, pp. 9-11.

knowledge that either administration of the SEI was to take place. As far as possible the procedures followed for the second administration of the SEI replicated those followed for the first.

Rationale for the quasi-experimental design

The Martha's Vineyard Regional High School Core program had been in operation since the fall of 1969; however, no data had ever been collected to establish pre-existing levels of student self-esteem. For this reason results obtained from the first administration of the Self Esteem Inventory, which occurred in the spring of 1971, could not be considered pretest data. Those results have been identified as de-facto indicators of levels of student self-esteem. The second administration of the SEI, which took place in the spring of 1972, has been furthermore identified as a source of ex-post-facto data rather than as a source of posttest results. The rationale for the adoption of this modification of a pretest-posttest design into a time series design rests in the purpose of this study to assess improvement in self-esteem through the use of all available data sources. It was recognized in the proposal for this study that a formal pretest-posttest design would not be possible; therefore, the modification described was adopted to permit the identification of trends

in the changes in self-esteem which had occurred between the two administrations of the SEI.

Description of the design

The modified time series design which was developed and employed consisted of two separate administrations of the Self Esteem Inventory to all students who attended Martha's Vineyard Regional High School. The populations of both administrations of the SEI were later separated into four groups by school program. The four groups were: College preparatory, Business, General Studies and Core. The purpose of this sub-grouping was to establish self-esteem scores for each group for each administration of the SEI. These group scores were used as data for comparison between the groups and between the administrations of the SEI. This four-group paradigm does not formally constitute an experimental group-control group situation, since many of the factors which affected Core students also had effect on the other student groups. The quasi-experimental, four-group design which was developed and employed provided data which served as a basis for assessment of the third objective of the Core program.

Treatment of the data

Student answer sheets from both administrations of the Self Esteem Inventory were sorted, and the responses of all twelfth grade students who participated in the first ad-

ministration of the SEI and all ninth grade students who participated in the second administration of the SEI were removed from the data bank. In addition, the responses of all students who had transferred into the school system during the period of this study were also excluded from the raw data. The purpose of this procedure was to render the populations of both administrations of the SEI as homogeneous as possible.

The retained student answer sheets were key punched on IBM computer cards by the staff of the University of Massachusetts Computing Center at Amherst for scoring, grouping and analysis. Group mean scores for each group and for each administration of the SEI were calculated, and these data were electronically processed through the HARVY program for an "F" test of the analysis of variance between groups.

The computer printout provided data which was analyzed and interpreted by the investigator through consultation with research personnel from the University of Massachusetts Computing Center to provide an assessment of the degree to which the third objective of the Core program had been achieved.

Survey research on self-esteem

The Parent Program Assessment Inventory (Appendix A) served as the focal instrument of multi-purpose survey re-

search and contained items which related to parent opinions of student self-esteem. The PPAI survey was conducted in the late spring and early summer of 1972. Fifty-three parents of Core students were identified as valid sources of assessment data, and each was interviewed either by telephone or through personal contact. The form of the interviews closely followed the procedure set forth by the survey instrument.

Parent responses to all items of the PPAI were recorded, and three items which referred to parent assessment of student self-esteem were identified. These items were:

12. Has your child expressed any sense of accomplishment in developing vocational skills as a result of his participation in the Core program?
15. Has being in the Core program improved your child's opinion of himself?
16. Has being in the Core program improved your child's self-confidence?

Parent responses to the identified items were tabulated, and the response to each item was analyzed and interpreted for improvement in student self-esteem as assessed by parents. As with other items of the Parent Program Assessment Inventory which addressed objective number one of this study, the collective tabulated responses to items twelve, fifteen and sixteen were considered comprehensively as well as individually. The construct reliability of the items and the correlation of the frequency of positive re-

sponses were considered important factors in the interpretation of the assessment responses which were provided by parents.

Objective Number Four

To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, teachers and administration.

Assessment Procedures

Three separate assessment procedures were employed to determine the degree to which the attitude of Core students toward the learning environment had been altered. These procedures included: a modified time series, quasi-experimental, four-group research design; the interpretation of results obtained from survey research; and the interpretation of results obtained from unobtrusive measures. The unobtrusive measures included the tabulation and interpretation of discipline infraction records of Core students, the tabulation and interpretation of Core attendance records, and an analysis of the content of informal interviews with selected teachers and administrators. The results of these multi-faceted assessment procedures were synthesized to form an indication of the degree to which the fourth objective of this study had been reached.

The quasi-experimental, modified
time series design

The research procedure which was employed to assess student-reported changes in attitude toward the learning atmosphere consisted of a modified time series, quasi-experimental, four-group research design which was based on Frederickson and Kelly's Learning Atmosphere Attitude Scale (Appendix A). A modified pretest-posttest procedure, which involved the entire student body of Martha's Vineyard Regional High School, was established to cover a one-year period to assess this aspect of the study.

Instrumentation

The instrument selected to assess self-reported changes in student attitude toward the learning atmosphere was the Learning Atmosphere Attitude Scale, which was developed in 1970 by Ronald Frederickson and Francis Kelly of the University of Massachusetts. This instrument is a thirty item likert-type inventory which is designed to measure certain dimensions of a school's learning climate through student perceptions of the learning environment. It consists of items which deal with student perceptions of the learning environment: items which deal with student attitudes toward teachers, peers, curriculum, administration, activities, and facilities, as well as items which attempt to explore the way the student perceives himself in relation to school and education. The LAAS has undergone four revisions which in-

volved reliability and validity studies that involved 2772 secondary students. The refined form of the instrument was used in this study.

The reliability of the LAAS has been determined by the Kuder Richardson Formula 20, coefficient Alpha, test-retest, and Reciprocal Averages Methods. The reliability in terms of internal consistency was found to yield a correlation coefficient of .85 in pilot studies with secondary students. Temporal reliability studies over a seven-week period produced a correlation coefficient of .80 in a test-retest situation.

The construct validity of the Learning Atmosphere Attitude Scale has been established at levels which are significant at the .01 level for student self-perception in relation to peers and the school in general. An overall correlation coefficient of .65 for construct validity was established in a study by Quinlan in 1971 which involved 336 students in three schools.⁴

The Learning Atmosphere Attitude Scale was selected since it was designed to assess the attitudes of diverse student groups toward the learning atmosphere. The population of this study consisted of population groupings which

⁴William J. Quinlan, "A Comparison of Total Scores on the Learning Atmosphere Attitude Scale with High School Student Characteristics and Behaviors," (unpublished Ed. D. dissertation, University of Massachusetts, 1971), pp. 1-7.

paralleled those employed in the original development of the LAAS. The instrument was developed with a population which included work-study students. Furthermore, the instrument can be effectively used with students who have limited reading skills, and it was considered to be appropriate to the purpose of this study.

Student responses to the Learning Atmosphere Attitude Scale were elicited from the entire population of the Martha's Vineyard Regional High School in May of 1971 and again in May of 1972. Both administrations of the LAAS were conducted contemporaneously with the administrations of the Self Esteem Inventory mentioned earlier. Student responses were recorded on Optical Scanning Corporation, Standard Answer Sheets-form C. Directions and timing for the LAAS were provided by the investigator through the use of the public address system of the school. All students were administered the instrument simultaneously during homeroom periods which had been arranged by the principal of the school. Students had no prior knowledge that either of the administrations of the LAAS was to take place. The procedure of the second administration of the instrument replicated the procedure which was followed during the first administration.

Rationale for the quasi-experimental design

The design of the research which employed the Learning

Atmosphere Attitude Scale to assess objective number four duplicated the design already described which employed the Self Esteem Inventory to assess objective number three. No data was available which established levels of student attitudes toward the learning environment prior to the inception of the Core program. In the spring of 1971, when the first administration of the LAAS was made, the Core program had been in operation for two years; therefore, this first administration of the LAAS could not be considered a pretest. The results of the first administration of the LAAS have instead been identified as an indication of de-facto levels of student attitudes toward the learning environment. Likewise, the second administration of the LAAS has been identified as an ex-post-facto indicator of levels of student attitudes toward the learning environment rather than as a source of posttest data.

The rationale for the acceptance of this modification of a pretest-posttest design into a time series design rests within the purpose of this study to assess the improvement of Core student attitudes toward the learning atmosphere through the use of all available assessment indicators. It was recognized in the proposal for this study that a formal pretest-posttest design would not be possible; therefore, the modification described was adopted to permit the identification of group levels of student attitudes toward the learning atmosphere and to provide data for the identifica-

tion of trends in changes of these group levels which had occurred between the two administrations of the Learning Atmosphere Attitude Scale.

Description of the modified design

The modified time series design which was developed and employed consisted of two administrations, one year apart, of the Learning Atmosphere Attitude Scale to all students in attendance at Martha's Vineyard Regional High School. The population of both administrations was separated into four groups, by school program. The four groups were: College preparatory, Business, General Studies, and Core. The purpose of this four-group, modified pretest-posttest design was to establish levels of attitude toward the learning atmosphere for each group and for each administration of the LAAS. These group scores were used as a source of data for comparison between the groups and between administration of the LAAS.

The four-group, test-retest paradigm does not formally constitute an experimental group-control group research design since many of the factors which had effect on the Core group also had effect on the other groups. The quasi-experimental design which was developed and employed provided data which served as a basis for assessment of the fourth objective of the Core program.

Treatment of the data

The populations of both administrations of the LAAS were rendered as homogeneous as possible by a sorting process. The Optiscan answer sheets from both administrations of the LAAS were sorted by hand. The answer sheets of all twelfth grade students who participated in the first administration of the LAAS and the answer sheets of all ninth grade students who participated in the second administration of the LAAS were removed from the data bank. Furthermore, the answer sheets of all students who had transferred into the school system during the period of this study were also excluded from the raw data. By this process, the populations of both administrations of the LAAS were made as homogeneous as possible.

The student answer sheets which were retained as raw data were electronically scored and keypunched on computer cards by the University of Massachusetts Counseling Center. The individual scores were grouped according to school program, and group mean scores were computed by the University of Massachusetts Computing Center. The resulting group mean scores were processed by means of the HARVY program for an "F" test of the analysis of variance between groups.

The printout of the data was analyzed and interpreted by the investigator to assess the degree to which the attitude of the Core group toward the learning atmosphere had been improved. The investigator was guided in this effort

through consultation with research personnel from the University of Massachusetts Computing Center.

Survey research on student attitudes toward the learning environment

The Parent Program Assessment Inventory (Appendix A), which was the focal instrument of the survey research previously described, contained items which pertained to parent assessment of student attitudes toward the learning atmosphere. The PPAI survey was conducted in the late spring of 1971 with fifty-three selected parents. This survey research addressed parent assessment of the degree to which several of the objectives of the Core program had been met. The items in the PPAI which were identified as pertinent to assessment of student attitudes toward the learning atmosphere were:

6. Does your child believe that the Core program is the best educational program available for him?
10. Would your child remain in school if the Core program was no longer available?
11. Is your child learning more in the Core program than he did in his former program of study?
13. Did your child's interest in his education improve as he became involved with the Core program?

Parent responses to all items of the PPAI were tabulated, and the responses to the items which were related to student attitudes toward the learning atmosphere were analyzed and interpreted. Each item was considered individually; moreover, the relationship between items was identi-

fied and interpreted for an indication of assessment. The collective responses to items six, ten, eleven and thirteen of the PPAI were also considered comprehensively to determine the overall assessment of the degree to which parents believe that the third objective had been met.

Unobtrusive Measures

The unobtrusive measures which were employed to assess the improvement in Core student attitudes toward the learning atmosphere included a review of discipline infraction records, a review of attendance records, and an analysis of the content of informal interviews with selected teachers and administrators.

Discipline infraction records

The incidence of certain types of discipline infractions was recognized as an indicator of student attitudes toward the learning atmosphere. A comparison of the frequency of discipline infractions committed by Core students and other students was accepted as a method of assessing the degree to which Core students' attitudes toward the school had been improved. The research method which was employed was not experimental, and it relied heavily on subjective comments from incomplete anecdotal records to establish baseline levels of student attitudes and behaviors prior to student involvement with the Core program.

A review of Core student anecdotal records for the

school years prior to the operation of the Core program was made to verify the characterization of Core students as those who had been negative toward school and who were chronic discipline problems. No attempt was made to quantify this information since not all records were available nor were those available equally complete. A consensus was drawn from available comments and was accepted as a valid description of prior levels of student attitudes.

The discipline infraction records for the 1970-71 and the 1971-72 school years were examined, and certain types of infractions were identified as being related to student attitude toward the learning atmosphere. These infractions were: truancy, insult of a teacher, damage to school property, and leaving school without permission. Those infractions warranted suspension from school; therefore, complete records were available. The years 1970-71 and 1971-72 were selected for this study, since this time period coincided with the time period during which the Core program had been in full operation.

The frequency of incidence of each of the identified discipline infractions was tabulated for the Core group and for the non-Core group, which included all other students who attended Martha's Vineyard Regional High School. The population size of both groups was established, as was the number of actual offenders in each group. The mean of the infractions committed by the offenders in each group was

calculated, and these means were interpreted to provide an assessment indicator of the degree to which Core students' attitudes toward the learning atmosphere were different from those held by non-Core students. The results of this comparison were contrasted with reported levels of students' attitude prior to student involvement with the Core program.

Attendance records

School attendance was identified and accepted as an unobtrusive indication of student attitude toward the learning atmosphere. In order to determine the degree to which Core students had developed improved attitudes toward school, a review of attendance records was made. The attendance records were used to compare school attendance by Core students before and during participation in the Core program and to compare the school attendance of Core students with that of the total school population.

The comparison of school attendance by Core students before and during enrollment in the Core program employed a population of twenty-three students who had completed two years in the Core program and who had attended Martha's Vineyard Regional High School in grade nine, the pre-Core experience. This cell included all students who met these criteria. Rates of school attendance were computed for the pre-Core and the during-Core periods, and these rates were compared to provide indications of assessment of improved

Core student attitudes toward the learning atmosphere.

The comparison of Core attendance with the attendance levels of the total student population, including Core students, focused on the school years 1970-71 and 1971-72.

This period was chosen since it coincided with the period of full operation of the Core program. Group mean attendance rates were calculated for both groups.

The total school population attendance data included Core students. These data were obtained from annual attendance reports of the school wherein no distinction was made between Core and non-Core students. The Core attendance data were taken from the permanent records of Core students. The fact that Core student attendance was included in the total school population attendance data was not considered to weaken the basis of comparison between the two groups. In fact, once the rates of attendance for the two groups were established, it was found that the opposite effect was true.

Percentages of attendance for the Core group and for the total school population were calculated. The rates of attendance so established served as a basis for assessment of Core student attitudes toward the learning atmosphere.

Interviews of selected teachers
and administrators

Selected teachers and administrators were informally interviewed by the investigator in the late spring of 1972

to determine the opinions held concerning Core student attitudes toward the learning atmosphere. Those who were interviewed included three teachers who had taught Core students before the students had enrolled in the Core program, the assistant principal of the school, and the acting coordinator of the program. The selection of these individuals was based on their identification as those in the school who had the necessary familiarity with Core students to offer valid opinions. All of the teachers interviewed were in regular contact with Core students at the time of the interview. The assistant principal and one of the teachers had been involved with the development of the Core program and had served on the original planning committee. The coordinator had taught in the school prior to the development of the Core program, had taught on the mainland during the developmental years of the program, and had returned to the school as program coordinator during the 1971-72 school year.

The interviews took the form of non-directive and informal conversations wherein the investigator was sensitive to comments about changes in student behavior which had been noted over the years. Those interviewed were not asked formal questions, nor were responses recorded or tabulated. A consensus was developed by the investigator from the comments, views and anecdotes which were related by those interviewed. The views expressed were analyzed and inter-

preted as an unobtrusive indicator of the changes which had occurred in Core students' attitudes toward the school, the teachers and the administration.

Summary

This chapter has provided a description of the research methodologies which were employed to assess the degree to which the four objectives of the Martha's Vineyard Regional High School Core program were met. Each objective except the second was assessed through the use of data obtained from several sources. The multi-faceted design included survey research; modified time series, quasi-experimental research; and unobtrusive research. In some cases the results obtained from one piece of research served the assessment of several objectives. The research design included the use of investigator modified instruments, standardized instruments, informal interviews and school records.

Statistical treatment of data was performed by the investigator, the University of Massachusetts Counseling Center, and the University of Massachusetts Computing Center. The data obtained was analyzed, synthesized and interpreted to provide an assessment of the degree to which each of the objectives of the Core program had been met. Chapter five, which follows, contains the presentation and analysis of the assessment data which was obtained by the procedures just described.

C H A P T E R V

PRESENTATION AND ANALYSIS OF ASSESSMENT DATA

The presentation and analysis of assessment data in this chapter follow the procedures as outlined in Chapter four. In the previous chapter, the four objectives of the Martha's Vineyard Regional High School Core program were identified, and the assessment methodologies for each have been described in detail.

Following is a presentation and analysis of assessment results as they apply to each objective of the Martha's Vineyard Regional High School Core program.

Objective Number One

To provide vocational training and education suitable to the interests and abilities of each student.

Presentation and Analysis of Assessment Data

As detailed in Chapter four, several different research methods have been utilized to generate assessment data for this objective: pertinent item responses to the Parent Program Assessment Inventory (PPAI), pertinent item

responses to the Employer Program Assessment Inventory (EPAI), and unobtrusive measures based on available Kuder Preference Record (Vocational) scores, counseling notes, and informally obtained community opinions.

Results of the Parent Program Assessment Inventory

The Parent Program Assessment Inventory (Appendix A) has yielded data from pertinent items which are presented in Table 5A.

Table 5A

Parent Program Assessment Inventory:
Frequency of Response to Items Which
Relate to Vocational Training Effectiveness

n=53

Item	Positive Response		Negative Response		No Response	
	Number	Per-centage	Number	Per-centage	Number	Per-centage
1	53	100				
2	53	100				
7	50	94	3	6		
3	51	96	2	4		
4	50	94	3	6		
5	23	43	30	57		
8	41	77	2	4	10	19
9	51	96	2	4		
14	51	96	2	4		

Items one, two and seven are contextually inter-related; therefore, in Table 5A above, item seven has been listed out of numerical order in recognition of this relationship. In the item analysis of the responses to the PPAI, items one, two, and seven have been interpreted as components of a single question rather than as isolated and unrelated separate questions. The frequency of positive response varies among these items; however, this discrepancy is so slight that it is not considered to adversely affect the integrity of the three items being considered together.

As has been explained in Chapter four, fifty-three parents responded to the PPAI. These parents comprise the total population whose children have completed at least two years in the Core program.

Analysis of PPAI items

Item one of the PPAI asked:

1. Do you want Martha's Vineyard Regional High School to provide Occupational Education for those students who desire it?

All parents surveyed responded positively to this item. All parents surveyed also responded positively to item two of the PPAI which asked:

2. Do you want your child to receive a vocational or a job-skill education?

Item seven of the PPAI is related to items one and two, in that, taken together they ask the single question--

is the Core program satisfying the objective of providing vocational training and education suitable to the interests and abilities of each student? Item seven asked:

7. Do you believe that the Core program is the best education program available for your child?

Fifty of the parents interviewed responded positively to this question and three responded negatively. Two of the three negative respondents expressed the criticism in item nineteen of the Inventory that a business education course would be preferred by the parent as a program of study, but, in both cases, the students involved preferred the Core program. The third negative respondent expressed the wish that completely in-school vocational training programs be available. This same respondent further reported that being a Core student had made his child too independent and less responsive to parental control.

Taken together, responses to items one, two and seven indicate a strong positive parent assessment of the Core program as an effective source of vocational training.

Item three of the PPAI asked:

3. Is your child learning a trade or a vocational skill in the Core program which the regular school program could not provide?

Response to this item was ninety-six percent positive. Of the two negative respondents, one had also responded negatively to item seven, mentioned above, and preferred a business education for the student. The other negative

respondent offered no explanatory comment in item nineteen. The ninety-six percent YES response to item three indicates a strong positive parent assessment of the Core program as a source of vocational education.

Item four of the PPAI asked:

4. Are you relatively satisfied with the education that your child is receiving through the Core program?

Fifty parents responded positively to this item and three parents responded negatively. None of the negative respondents offered critical explanatory comments in item nineteen of the Inventory. The ninety-four percent positive response to item four combined with the one-hundred percent positive response to item two (Do you want your child to receive a vocational or job-skill education?) indicates positive parental assessment of the Core program as a source of vocational education.

Item five of the PPAI asked:

5. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you prefer that your child be enrolled in it rather than in the Core program?

Twenty-three parents responded positively to item five, and thirty parents responded negatively. Item five provided a more even division of response than any other item in the Inventory. Forty-three percent of the respondents preferred that their children be enrolled in totally in-school programs, while fifty-seven percent of the respon-

dents preferred their children be enrolled in cooperative vocational education. Sixteen of the respondents who indicated a preference for totally in-school vocational education also indicated on item ten of the PPAI that their children would not remain enrolled in school if cooperative education was no longer available. This fact notwithstanding, nearly half of the respondents to item five preferred that vocational education be obtained through a totally in-school program as opposed to cooperative vocational education.

Item eight of the PPAI asked:

8. Do you and your spouse agree that the Core program is the best available course of study for your child?

Forty-one parents responded positively to this item, two parents responded negatively, and ten parents offered no response. Of the negative respondents, respective spouses of each preferred that the child drop out of school whereas the responding spouse preferred the child remain in school. Of those parents who did not respond to item eight, all either reported to be or are known to be separated or divorced from their spouses. Expressed differently, in at least seventy-seven percent of the families of Core students, both parents agreed that the cooperative vocational education program had their approval as being

the best available form of education for their children.

Item nine of the PPAI asked:

9. Has the Core program done a good job in providing a useful vocational education for your child?

Item fourteen asked:

14. Is your child learning a useful job-skill through the Core program?

Items nine and fourteen taken together comprise an interrogative form of the first objective of the Core program:

To provide vocational training and education suitable to the interests and abilities of each student.

Fifty-one parents responded positively to both items nine and fourteen. Of the two parents who responded negatively to item fourteen, one parent noted a preference that her child be enrolled in business education. Other negative responses were unexplained. Ninety-six percent of the respondents to items nine and fourteen assessed the Core program as successful as a source of vocational training appropriate to the interests and abilities of the students enrolled.

Results of the Employer Program Assessment Inventory

The Employer Program Assessment Inventory (Appendix A), has yielded data from pertinent items which are presented in Table 5B.

Table 5B

Employer Program Assessment Inventory:
Frequency of Response to Items Relating
to Effectiveness of the Core Program as
a Source of Vocational Training

n=37

Item	Positive Response		Negative Response	
	Number	Percentage	Number	Percentage
1	37	100		
4	37	100		
2	33	89	4	11
9	10	27	27	73
3	37	100		
7	34	91	3	9
8	37	100		

In Table 5B above, item one and item four are related and item two and item nine are related. Because of these relationships these items have been ordered in the sequence shown.

As explained in Chapter four, thirty-seven cooperating employers completed the Employer Program Assessment Inventory. This cell constitutes the total population of employers who had maintained a training-employment relationship with students from the Core program for a minimum time period of one complete academic year. In many cases

the cooperating employers had participated in the Core program for several years and in some cases with several different students.

Analysis of EPAI Items

Items one and four of the EPAI asked:

1. Do you recommend that young people go into your trade or business?
4. Have you been successful in teaching the necessary job skills to your student trainees?

Employer response to both item one and item four was one-hundred percent positive. The correlation of positive response to these items has been interpreted as an indication that each is reinforcing to the other. These results also indicate that employers who participated in the Core program have strong beliefs concerning the viability of their fields and a strong sense of belief in their own ability to teach the skills of their trades to student learners.

Items two and nine of the EPAI asked:

2. Do you believe that on-the-job training is the best method of learning the vocational skills required in your line of trade or business?
9. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you recommend that your student-trainee be enrolled in it rather than in the Core program?

In effect items two and nine asked the same question

posed differently. Eighty-nine percent of the employers responded positively to item two indicating a strong bias in favor of learning vocational skills via field training on-the-job. Employers' response to item nine indicated a seventy-three percent negative response. In effect this negative response to a totally in-school vocational training program indicates a positive response favoring cooperative vocational training. The eighty-nine percent positive response to item two and the seventy-three percent negative response to item nine indicates a strong reliability between the two responses and is further interpreted as an indication that the cooperating employers strongly endorse the Core program as an effective form of vocational education.

Item three of the EPAI asked:

3. Are student-trainees from the Core program with whom you have worked interested in learning the job skills you have tried to teach?

Employer response to item three was one-hundred percent positive. This response has been interpreted as an indication that students have maintained a high level of interest in vocational training and that the employer-student training relationship has been successful. This high degree of positive response further appears to indicate that employers regard the Core program as a source of interested and motivated vocational trainees.

Item seven of the EPAI asked:

7. If you had a job opening available, would you hire your student-trainee on a full-time basis?

Employer response to this item was ninety-one percent positive. This item is considered to be the ultimate measure of the success of the Core program as a form of vocational education. This item, above all others, assesses the product of the program in the most real terms for employers. The strong positive response indicates that employers believe that the Core program has been effective as a source of vocational training. Of the three negative responses to this item, all of the students involved had dropped out of school after poor performance both in school and at the apprenticeship assignments. In two of the cases, students were retained as employees after dropping out from the program, but proved unreliable and were later discharged. Despite these three negative responses over the three-year life of the Core program, the ninety-one percent positive response to item seven is interpreted as a strong employer endorsement of the Core program.

Item eight of the EPAI asked:

8. Do you believe that the Core program has been a successful method of providing vocational education for students who are interested?

In some respects this item is a qualified restatement of item seven. Employer response to this item was one-hundred percent positive which indicates a high degree of reliability with item seven. This response further indica-

tes that employers regard the Core program as an effective means of providing vocational education for vocationally inclined students in the Martha's Vineyard school system.

Results of unobtrusive measures

Several informal and unobtrusive measures have been utilized to further assess the effectiveness of the Core program as a source of vocational training. These unobtrusive indicators include available Kuder Vocational Preference Profiles, an analysis of vocational counseling notes and a summary of community opinions concerning the effectiveness of the Core program as a source of vocational training.

Vocational interest test records

Twenty-eight students had been given Kuder Preference Records (Vocational) form CH over the life of the Core program. The individual student profiles generated from these inventories were compared with the occupational area in which each student was apprenticed. In all cases but one the Core apprenticeship assignment agreed with the vocational interest profile of each student. The one case of disagreement between vocational interest and apprenticeship placement occurred in the situation wherein a student with very high clerical interest was apprenticed as a carpenter.

Counseling notes

Counseling notes made by the Core coordinator over a three-year period indicate that in all cases students have been apprenticed in the trades of the student's first or second choice. Examination of apprenticeship placement records and counseling notes of student vocational preferences indicate a high degree of correlation between preference and placement. This performance has been further reflected in comments made by students in guidance follow-up studies.

Community opinions

Members of the Core advisory committee have provided opinions gathered from sectors of the community not normally contacted by those involved with the Core program. The Core advisory committee indicated that members of the community who are neither Core parents nor Core employers generally believe that the Core program had been effective as a source of vocational education suitable to the needs and abilities of each student.

From the data collected from parents, cooperating employers, student records and interviews, and from other sources, it may be generally concluded that the Core program has been effective in providing vocational education suitable to the interests and abilities of those students who desire it.

Objective Number Two

To improve the academic achievement of each student, especially in reading and mathematics.

Presentation and Analysis
of Assessment Data

As described in Chapter four, the procedure used to assess this objective has been a quasi-experimental, modified time series design utilizing Stanford Achievement Test percentile rank scores for reading and mathematics. These test scores have provided the basis for Delta scores or rate of change scores as indicators of trends.

Reading achievement

Reading achievement percentile rank scores at grade 7, grade 9, and grade 11 based on the Stanford Achievement Test were compiled for sixteen Core students and sixteen matched comparison group students. Complete tables of scores are shown in Appendix B. Group mean scores for each group and for each administration of the test were computed as shown in Table 5C.

Table 5C

Reading Achievement
Group Mean Percentile Rank Scores
Stanford Achievement Test

Group	Grade 7	Grade 9	Grade 11
Core n=16	25.9	24.4	34.8
Matched Compari- son Group n=16	25.6	26.9	27.6

A "t" test was computed to determine the significance of these group mean scores and yielded a "t" score of 1.310, significant at the .10 level.

Table 5D

Comparison of Group Mean
Reading Achievement Scores for Core Group
and Matched Comparison Group
Stanford Achievement Test

Group	Number	Standard Deviation	Mean Scores	t
Core	16	20.5	34.8	1.310*
Matched Comparison Group	16	9.1	27.6	

*significant at the .10 level.

Utilizing the group mean scores from Table 5C, Delta scores were computed to determine rates of change which had occurred in reading achievement for each of the two groups between grades seven and nine and between grades nine and eleven. This modified time series technique has been used to establish whether downward or upward trends were in effect between administrations of the reading achievement measurement. This information is not readily discernable from group mean scores. The Delta scores for the period between the end of grade nine and the end of grade eleven coincides with the time period that students were enrolled in the Core program.

Table 5E
Delta Scores
Reading Achievement

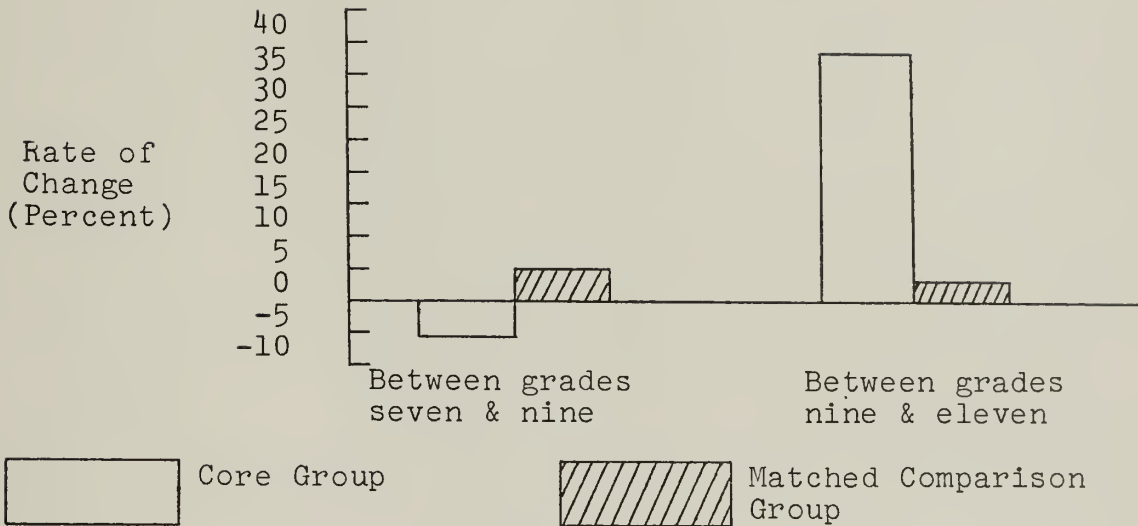
Group	D Score between grade 7 and grade 9	D Score between grade 9 and grade 11
Core n = 16	-5.7%	38.5%
Matched Comparison Group n=16	5.0%	2.6%

$$D = \left[\left(\frac{\bar{X}_1 - \bar{X}_2}{\bar{X}_1} \right) (100) \right]$$

The data presented in Table 5E indicate that between the grade seven and grade nine administrations of the Stanford Achievement Test, the reading achievement of Core students had fallen 5.7 percentage points. During the same time period the comparison group students experienced a 5.0 percentage point increase in reading achievement. Both groups were integrated and received the same quality of reading instruction through grade nine.

In grade ten Core students were, by their option, segregated and provided with reading instruction based on materials appropriate to individual vocational interests. Students in the matched comparison group were not necessarily given specific instruction in reading; however, all comparison group students participated in English courses, part of whose content consisted of reading experience and exercise. The scores presented in Table 5E show that between the grade nine and grade eleven administrations of the Stanford Achievement Test the reading scores for the Core group had risen 38.5 percentage points. During the same time period reading achievement scores of comparison group students had risen 2.6 percentage points. This information is presented graphically in Graph 5A shown below.

Graph 5A

Rates of Change
Reading Achievement

The results obtained through this process were not based on the total population of the Core group. Only those Core students who had been in the Core program for a full two years, who had reading scores recorded for grades seven, nine and eleven, and who had not transferred into the island school system during the period of this study were included. These conditions, combined with the "t" scores derived which is significant only to the .10 level, require that caution be observed in formulating any conclusions concerning the relative effectiveness of the methods of reading instruction used with each of the groups.

It is apparent that, for those students from the Core program who were included in this study, a downward trend

in reading achievement in grades eight and nine was dramatically reversed in grades ten and eleven. Grades ten and eleven constitute the time period when those students were enrolled in the Core program. The comparison group experienced an almost opposite trend. During grades eight and nine the comparison group enjoyed gradual improvement of reading achievement, but in grades ten and eleven the rate of improvement decreased although the actual achievement scores did continue to rise.

While no definitive cause and effect relationship between student participation in the Core program and improved reading scores can be determined, the trends of the scores in reading achievement do provide an assessment indicator which supports interpretation that the reading achievement of Core students has been materially improved.

Mathematics achievement

The method utilized to assess this objective closely parallels that utilized to assess reading achievement. As described in Chapter four, a quasi-experimental, modified time series design which utilized Stanford Achievement Test percentile rank scores has been the basis for the development of Delta scores or rate of change scores which indicate trends. The Stanford Achievement Test mathematics achievement percentile rank scores obtained at the end of grades seven, nine and eleven were compiled for a group of

sixteen Core students and for a group of sixteen matched comparison group students from the general studies program. These raw scores are shown in Appendix B. Group mean scores for each group and for each administration of the test were computed as shown in Table 5F below.

Table 5F

Mathematics Achievement
Group Mean Percentile Rank Scores
Stanford Achievement Test

(National Norms) \bar{X}

Group	Grade 7	Grade 9	Grade 11
Core n=16	26.3	21.9	29.9
Matched Comparison Group n=16	37.3	30.9	35.6

A "t" test was computed to determine the level of significance of these group mean scores. This "t" test revealed that variance homogeneity exists; therefore, statistical significance beyond the .10 level cannot be assumed. This lack of statistical significance implies that relatively small mean differences exist between the two groups, and that an overlap exists in the group distributions.

Table 5G

Comparison of Group Mean
Mathematics Achievement Scores
for Core and Matched
Comparison Group
Stanford Achievement Test

Group	Number	Standard Deviation	Mean Scores	t
Core	16	23.4	29.9	.7519 (n.s.)
Matched Comparison Group	16	20.8	35.6	

Despite the lack of statistical significance of the group mean scores, Delta scores have been computed to determine rates of change in mathematics achievement between the groups. This procedure appears to be in order since the non-significant "t" score limits only the statements of cause and effect which otherwise might be made concerning participation in the Core program and improvement of mathematics achievement. The Delta scores are shown in Table 5H below.

Table 5H
Delta Scores
Mathematics Achievement

Group	D score between grade 7 & grade 9	D score between grade 9 & grade 11
Core n=16	-16.7%	35.6%
Matched Comparison Group n=16	-17.1%	2.6%

$$D = \left[\left(\frac{\bar{X}_1 - \bar{X}_2}{\bar{X}_1} \right) (100) \right]$$

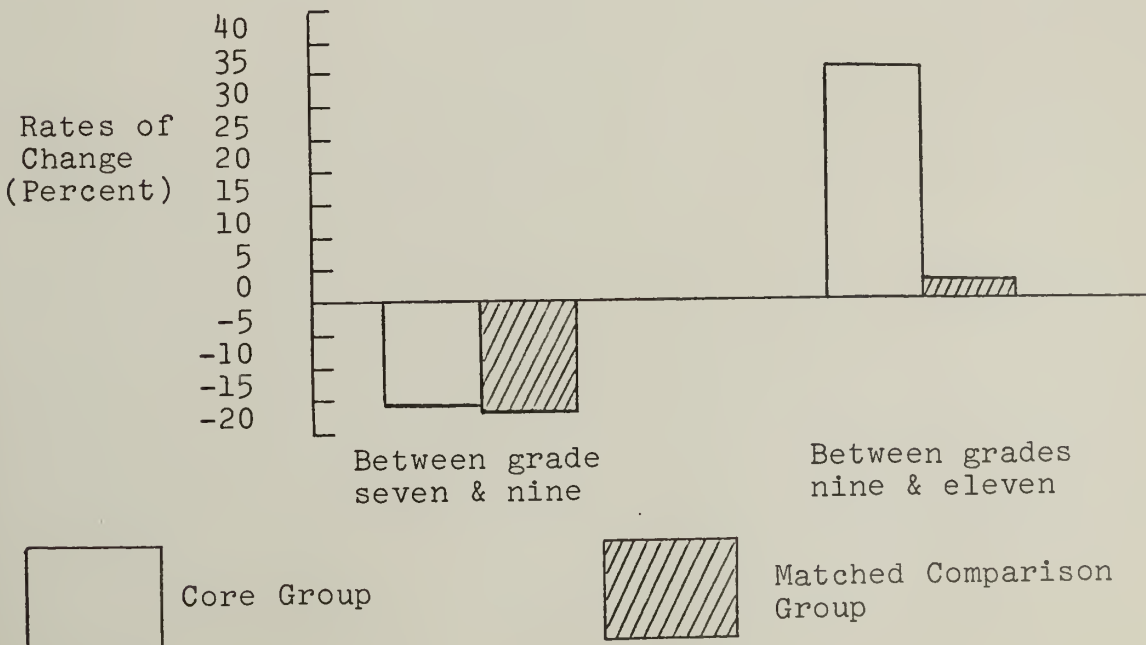
While validity of any conclusions based on the Delta scores is limited by the lack of a statistically significant "t" score, the Delta scores for mathematics achievement do reveal an interesting pattern of trends which are more dramatic than those obtained for reading achievement. Between the administrations of the Stanford Achievement Test at the end of grade seven and the end of grade nine, the mathematics achievement of the Core group had fallen 16.7 percentage points. During the same time period the mathematics achievement of the comparison group had fallen 17.1 percentage points. Both groups had been integrated and received the same quality of instruction during this time period.

During grades ten and eleven Core students were, by their option, segregated and provided with mathematics instruction which was related to individual vocational interest and involvement. Students in the matched comparison group were not required to study mathematics, and less than one third of the comparison group elected any mathematics course during tenth or eleventh grade.

At the end of grade eleven the Stanford Achievement Test was readministered to both groups. Table 5H shows that the Core group experienced a 35.6% increase in achievement over previous levels and the Comparison Group made a 2.6% gain. This information is presented graphically in Graph 5B below.

Graph 5B

Rates of Change
Mathematics Achievement



The non-significance of the "t" value obtained from the analysis of group mean scores severely limits the implications concerning instructional methods which could be drawn from the Delta scores of mathematics achievement. If the changes in mathematics achievement for the Core group are considered in isolation, the Delta scores do reveal a distinct positive change. This fact permits guarded assessment of the second objective (to improve the academic achievement of each student, especially in reading and mathematics). The mathematics achievement level of the Core group had improved, and the rate of positive change implies an assessment that the second objective had been achieved. The data obtained do not permit conclusions which discuss the effectiveness of enrollment in the Core program over enrollment in a general studies program, however. The mathematics achievement of the Core group did improve; so also did the mathematics achievement of the matched comparison group. While the Core group improved at a higher rate than the comparison group, the rates of improvement of both groups are not different enough to warrant their consideration as two separate groups; therefore, no further distinctions can be made.

Objective Number Three

To develop the human potential via improvement of the self-esteem or self-concept of every student.

Presentation and Analysis
of Assessment Data

The principal instrument used to assess this objective has been Coopersmith's Self Esteem Inventory¹ which has been employed in a modified time series, quasi-experimental design. Additional self-esteem assessment information has been gathered from responses of parents to pertinent items of the Parent Program Assessment Inventory. The method used to analyze the data generated is explained in Chapter four. Through the use of this multifaceted assessment procedure, information has been gathered which permits an assessment of the degree to which objective number three has been attained.

Results of the Self
Esteem Inventory

The Self Esteem Inventory is a standardized instrument which was administered to the entire student body of Martha's Vineyard Regional High School in May of 1971 and again, for reliability, in May of 1972. The total school population was subdivided into four groups which consisted of College Preparatory, Business Education, General Studies

¹Stanley Coopersmith, The Self Esteem Inventory, 1959.

and Core program students. The group mean scores for each group and for each administration of the test were analyzed to determine between group differences in self-esteem. These scores were utilized in a modified time-series design in an effort to assess any effect which participation in the Core program had had upon student self-esteem.

Since the Core program had been in continuous progress since the academic year 1969-70, the two administrations of the Self Esteem Inventory cannot be strictly considered a pretest-posttest design. Instead these tests constitute a modified time-series situation to reveal de-facto and ex-post-facto results and to indicate the reliability of the results obtained.

To control for the population homogeneity of both administrations of the test, which occurred one year apart, the responses of all twelfth grade students who took the pretest, and all ninth grade students who took the posttest were excluded from the raw data. Furthermore, the responses of all students who had transferred into the school system during the period of this study were excluded from the raw data. By this technique the population which took the pretest and the population which took the posttest have been rendered largely identical. The sizes of the pretest and the posttest populations vary because of the culling process which was used to control for the reliability of

the responses of each group. The same condition is true of the subgroups into which the total populations have been divided.

The raw data for the Self Esteem Inventory was scored and analyzed by the University of Massachusetts Computing Center in Amherst, Massachusetts. The analysis of the data consisted of an analysis of variance by means of an "F" test to determine the statistical significance of the between-groups results. The "F" test was used because of obvious differences in critical characteristics between the subgroups which were recognized at the outset of this study. Self-esteem evaluation was conducted for the entire school population to provide a basis for comparison with levels of self-esteem which were registered by the Core group. The data obtained from this procedure are reported in Table 5I below.

Table 5I
Self Esteem Inventory
Group Mean Scores

Group	n	\bar{X} Pretest	n	\bar{X} Posttest
College Preparatory	153	31.686274	161	33.254658
Business	56	29.535714	33	29.030303
General Studies	37	31.432432	21	28.333333
Core Program	33	26.878788	42	28.952381
	279		257	

The group mean S.E.I. scores were analyzed to determine the significance of the between-groups results. Through the use of an "F" test the variance between groups was found to be statistically significant.

Table 5J
Between-Groups Analysis
of Group Mean Self-
Esteem Scores

Number of Groups	Core Mean	Combined Groups Mean	S.D.	F
4	28.95238	31.11007	7.77	9.831*

*significant at .01 level

The information shown in Table 5J indicates that the differences in group mean scores of the Self Esteem Inventory are significant at the .01 level. These group differences could have occurred only one percent by chance. The four groups are therefore distinct from each other and provide a valid basis for between-group comparison.

In effect, the information presented in Table 5I and Table 5J permits the following assessment of Core group self-esteem as reported on the Self Esteem Inventory. The Core group scored lowest of all groups on the initial administration of the S.E.I. On the second administration, the Core group scored second lowest and the General Studies group posted the lowest group mean score. Since multiple and varied factors had impact on each of the groups during the time period of this research, no definitive explanations for this shift are possible; however, some factors are noteworthy. During the time period of this study, variable modular scheduling and open-ended day privileges were instituted at the school for all students. The Core group was not affected by these factors to the degree that non-Core groups were, since Core classes met on an alternate week basis and required regular and longer meeting times. In effect, the academic environment of the Core group and the non-Core groups were not the same.

Despite the complexity of the factors affecting each

of the groups, the initial administration of the S.E.I. provided baseline data in the form of de-facto group mean scores. The Core group registered the lowest group mean score of all groups. On the second administration of the S.E.I. the mean scores of the Core group had improved while the mean scores of the Business Education group and the General Studies group had deteriorated. The change in mean scores for the Core group between the two administrations of the S.E.I. was analyzed for statistical significance and was found to be non-significant at the .05 level. This finding prevents any conclusions which relate Core group participation and improvement in self-esteem. In effect, the null hypotheses cannot be rejected, and enrollment in the Core program had not had any statistically significant positive effect on the self-esteem of participating students as assessed by the Self Esteem Inventory during the time period between the two administrations of the instrument.

Self-esteem as assessed
by the PPAI

The Parent Program Assessment Inventory (Appendix A) contained items which elicited evaluative responses from Core student parents regarding changes in student self-esteem. The tabulation of the responses to these items is presented in Table 5K.

Table 5K

Parent Program Assessment Inventory:
 Frequency of Responses to Items
 Which Relate to Student
 Changes in Self-Esteem

n=53

Item	Positive Response		Negative Response	
	Number	Percentage	Number	Percentage
12	43	81	10	19
15	50	94	3	6
16	50	94	3	6

Analysis of PPAI items

Item twelve of the PPAI asked:

12. Has your child expressed any sense of accomplishment in developing vocational skills as a result of his participation in the Core program?

While this item could be considered related to assessment of vocational training effectiveness of the Core program, it has been interpreted to more directly address the question of improvement of student self-esteem. This interpretation has been made since Core students as a group are most successful in the practice of manual skills. Through the Core program, students were provided opportunities to develop and improve manual skills by practice in real work situations, and the sense of success experienced by each student as a result of participation in activities that enhance performance strengths contributes to student perceptions of

self-worth.² On this basis item twelve has been interpreted as an assessment indicator of self-esteem.

Of the fifty-three parents surveyed, forty-three responded positively to item twelve. Of these positive respondents several indicated that the expression of a sense of accomplishment was not in most cases directly verbalized but was expressed in other subtle ways. Examples of this expression included demonstration of interest in securing and maintaining trade tools and participation in discussions concerning business, family and community matters, an indication that the contributions of the student as a workman were considered by him to be of worth. Other respondents could not specify actions to support their response but indicated a general growth of pride in work skills and in self had been observed in Core students.

The ten parents who responded negatively to item twelve did not offer any explanation for their response. In two of the ten cases, the students involved had dropped out of school.

Item fifteen of the PPAI asked:

15. Has being in the Core program improved your child's opinion of himself?

²Hamachek, Encounters With the Self, p. 148.

This item directly addresses the objective being assessed. In some respects it is a restatement of item twelve but it focuses more directly on parent assessment of improved student self-esteem. Fifty parents responded positively to item fifteen though many indicated that they could not "put a finger on" explicit examples to support the positive response. The positive response to item fifteen correlates well with the positive response to item twelve.

The three parents who responded negatively to item fifteen include those two parents whose children had dropped out of school. No further explanations of negative responses were volunteered nor were any provided when the investigator solicited them.

Item sixteen of the PPAI asked:

16. Has being in the Core program improved your child's self-confidence?

This item is somewhat a restatement of item fifteen and has been included in the survey to strengthen item reliability. Fifty parents responded positively to item sixteen which is a perfect correlation with the positive response to item fifteen. Explanations of reasons for positive response to this item were largely restatements of the reasons given in support of items twelve and fifteen of the Inventory.

The three parents who responded negatively to item sixteen were the same who responded negatively to item fifteen. These parents were also among the ten negative respondents to item twelve.

The responses of parents to items of the Parent Program Assessment Inventory which pertain to improved student self-esteem indicate that eighty-nine percent believe that student self-esteem had been improved. No provision has been made to control for the factors which could have caused the reported changes in self-esteem--natural changes caused by maturity of the subjects undoubtedly have had an effect on student self-esteem. No control group data was collected as a comparison base. The degree to which improvement in self-esteem can be attributed to participation in the Core program cannot be definitely established by results obtained through responses to pertinent PPAI items.

Summary of Research on Self-Esteem

The results of the Self Esteem Inventory, reported earlier in this chapter, and the responses to pertinent items of the Parent Program Assessment Inventory appear, on the surface, to mildly disagree concerning the degree of the self-esteem development of Core students. Results yielded by the S.E.I. indicate an improvement trend but not to a statistically significant level. Results yielded from PPAI

responses indicate considerable Core group self-esteem improvement but permit no identification of causes which may be definitively attributed to Core program participation. The major difference between the two assessment indicators lies in the levels of self-esteem improvement reported by each. These apparently inconsistent findings imply a need for further research on the subject to obtain greater reliability of results.

Objective Number Four

To improve the attitude of each student toward his learning atmosphere, particularly toward the school plants, teachers, and administration.

Presentation and Analysis of Assessment Data

An explanation of the procedures which have been used to assess objective number four has been detailed in Chapter four. These assessment methods include: Fredrickson and Kelley's Learning Atmosphere Attitude Scale³ in a modified time series quasi-experimental design, pertinent item responses to the Parent Program Assessment Inventory, and unobtrusive measures which included a review of discipline infraction records, attendance records, and informal inter-

³Fredrickson and Kelley, The Learning Atmosphere Attitude Scale.

views of teachers and administrators. Through the use of this multifaceted assessment technique, information has been gathered which permits an assessment of the degree to which objective number four has been attained.

Results of the Learning Atmosphere Attitude Scale

The Learning Atmosphere Attitude Scale is a standardized likert scale instrument which was administered to the entire student body of Martha's Vineyard Regional High School in May of 1971 and, for reliability, again in May of 1972. The population of this study was subdivided into four groups which consisted of College Preparatory, Business Education, General Studies and Core program students. The group mean scores for each group and for each administration of the test were analyzed to determine between-group differences in attitude toward the learning environment. As explained in Chapter four, these scores were used in a modified time series design to assess the effect which participation in the Core program had had upon student attitudes toward the learning atmosphere. The Core program had been in progress since the academic year 1969-70; therefore, the two administrations of the Learning Atmosphere Attitude Scale cannot be strictly considered a pretest-posttest design. The results from these administrations were utilized in a modified time series situation to reveal de-facto and

ex-post-facto results and to provide reliability for the results obtained.

To control for population homogeneity on both administrations of the LAAS, which occurred one year apart, the responses of the twelfth grade students who took the pre-test, and the responses of the ninth grade students who took the posttest, were excluded from the raw data. In addition, the responses of all students who had transferred into the school system during the period of this segment of the study were excluded from the raw data. By this procedure the pre-test and posttest populations were made largely identical. These populations vary in cell size because of the culling process which was used to control for the reliability of the responses of each group. This same condition is reflected in the size of the subgroup cells into which the total population had been divided.

The raw data for the Learning Atmosphere Attitude Scale was scored by the Counseling Center at the University of Massachusetts, and these scores were analyzed by the Computing Center at the University of Massachusetts. The analysis of the data consisted of an analysis of variance by means of an "F" test to determine the statistical significance of the between-groups results. Attitude toward the learning environment was measured for the entire school

population to provide a basis of comparison for levels of attitude which were registered by the Core group. These scores are presented in Table 5L.

Table 5L
Learning Atmosphere Attitude Scale
Group Mean Scores

Group	n	\bar{X} Pretest	n	\bar{X} Posttest
College Preparatory	153	70.618421	161	65.339506
Business Education	56	72.571429	33	70.424242
General Studies	37	70.702703	21	71.032857
Core Program	33	77.939394	42	78.780952
	279		257	

The group mean scores for the Core group show a positive change in attitude toward the learning environment as reported on the Learning Atmosphere Attitude Scale. All other groups showed a decrease in scores over the same time period. Taken alone, however, these scores cannot be interpreted to support conclusions of a cause and effect relationship between participation in a particular educational program and attitude toward the learning atmosphere.

To permit valid interpretation of the group mean LAAS scores, an analysis of the between-groups mean scores was computed by means of an "F" test. The results obtained verified that each of the four subgroups had mean scores which were significantly different from all others. This information is shown in Table 5M.

Table 5M

Between Groups Analysis
of Group Mean Learning
Atmosphere Attitude
Scale Scores

Number of Groups	Core Mean	Combined Groups Mean	S.D.	F
4	78.7381	70.4459	29.5975	2.612*

*significant at the .05 level

The information shown in Table 5M indicates that the differences in group mean scores of the Learning Atmosphere Attitude Scale are significant at the .05 level. These differences in group mean scores could have occurred only five percent by chance. The four groups are distinct and therefore provide a valid basis for between-group comparison.

As shown in Table 5L, the Core group scored highest of all groups on both administrations of the LAAS. Furthermore, the Core group showed the greatest gain between ad-

ministrations of the LAAS. While a variety of factors affected each group to different degrees, it is apparent that participation in the Core program had a positive effect upon the initial Core group mean score and an even greater enhancing effect upon the subsequent Core group mean score.

The learning environment of the groups involved varied considerably during the 1971-1972 school year. During this period variable modular scheduling and open-ended day privileges were instituted at the school. The Core group was not affected by these factors to the same degree as other groups since Core classes met on a regular basis and for longer periods of time. Furthermore, Core classes were held only on alternate weeks, a practice which had been in effect since 1970. On alternate weeks the learning atmosphere for most Core students consisted of vocational apprenticeship assignments in the community.

The analysis of initial group mean scores from the LAAS is revealing in the light of selection criteria for students admitted to the Core program. These criteria characterize Core students as those who had demonstrated an active dislike of school; yet the Core group scored highest of all groups in positive attitude toward the learning atmosphere. At the time of the initial administration of the LAAS most students in the Core group had been participating

in work experience for more than one year. The same condition was true at the time of the second administration of the LAAS.

In consideration of all of the earlier reported facts, analysis of all group mean scores achieved on the initial administration of the LAAS permits assessment that the Core group attitude toward the learning atmosphere had been improved. Analysis of all group mean scores achieved on the subsequent administration of the LAAS indicates a strong reliability which reinforces this assessment. Because of the complexity of the factors which affected all groups and because of the quasi-experimental nature of the research design employed, no firm conclusions may be drawn concerning cause and effect relationships between Core participation and attitude toward the learning atmosphere. Any statement which could be made concerning such a relationship would necessarily be so restricted that it would be of questionable value. The fact remains, however, that the attitudes toward the learning atmosphere held by the Core group on initial and subsequent evaluations were higher than those of any other group. This fact permits the assessment that objective number four as assessed by the LAAS had been achieved.

Attitude toward the learning
atmosphere as assessed
by the PPAI

The Parent Program Assessment Inventory (Appendix A) contained items which relate to student attitudes toward the learning environment. The responses of Core students' parents to these pertinent items are tabulated in Table 5N.

Table 5N

Parent Program Assessment Inventory:
Frequency of Responses to Items
Which Relate to Student
Attitudes Toward the
Learning Atmosphere

Item	Positive Response		Negative Response		No Response	
	Number	Percentage	Number	Percentage	Number	Percentage
6	53	100				
10	12	23	41	77		
11	42	79	10	19	1	2
13	41	77	11	21	1	2

Analysis of PPAI items

Item six of the PPAI asked:

6. Does your child believe that the Core program is the best educational program available for him?

This item does not directly address the question of student attitudes toward the learning atmosphere; however, it is closely related to it. Item six elicited a relative assessment of student acceptance of the educational program, a major

factor in the learning atmosphere. This item is additionally revealing since, for the Core program, the apprenticeship assignment in the community is a part of the educational program.

All of the parents surveyed responded positively to item six. This response permits assessment that the Core program is preferred by students enrolled in it and indicates that student attitudes toward the learning atmosphere are positive.

Item ten of the PPAI asked:

10. Would your child remain in school if the Core program was no longer available?

In some respects this item is related to item six. This item carries item six to the extreme since it tests the limit to which preference for the Core program will be held. Parent responses to this item were negative in forty-one of the fifty-three possible cases. Twelve parents indicated that their children would remain in school even if the Core program were no longer available. The results of the response to this item indicate that Core students strongly prefer the Core program, and seventy-seven percent would leave school if the program were abolished. In light of the extreme position which a negative response to this item requires, the seventy-seven percent negative response represents a very strong preference for the learning atmosphere

provided by the Core program.

Item eleven of the PPAI asked:

11. Is your child learning more in the Core program than he did in his former program of study?

Item eleven assesses the ability of the Core program to provide education which is relatively more meaningful to Core students. This item questions the ability of the Core program to capitalize on self-motivation to learn and furthermore questions the degree to which Core students learn as a result of participation in the Core learning atmosphere. Forty-two parents responded positively to item eleven while ten responded negatively, and one offered no response. These responses have been interpreted as a positive assessment of the Core program with regard to improved student attitude toward the learning atmosphere.

Item thirteen of the PPAI asked:

13. Did your child's interest in his education improve as he became involved with the Core program?

This item is closely related to item eleven and is considered to be an indicator of reliability for item eleven. Item thirteen assesses Core student attitudes toward the learning atmosphere in the most real terms. Forty-one parents responded positively to this item, eleven responded negatively, and one offered no response. These results are positively correlated with the responses obtained to item eleven. The response to item thirteen has been interpreted

as a positive assessment of the Core program as a factor in improved student attitude toward the learning atmosphere.

Results of parent responses to PPAI items which pertain to improvement of student attitudes toward the learning atmosphere, on the whole, indicate that student attitudes were noticeably improved. The degree to which this improvement was caused by participation in the Core program cannot be clearly established since other factors which were not controlled for had influence upon Core students during the period of this study. Parent assessments did indicate an improvement in student attitudes toward the learning atmosphere during the period of Core participation; therefore, a strong possibility exists that this participation had been a major influence on the improvement of student attitudes.

Results of unobtrusive measures

Unobtrusive measures have been selected as related to student attitudes toward the learning atmosphere. These unobtrusive indicators include: a review of discipline infraction records, attendance records, and interviews of teachers and administrators. The information collected from an analysis of these measures has provided a basis for assessment of Core student attitudes toward the school.

Discipline infraction records

The discipline infraction records for the school years 1970-71 and 1971-72 have been examined and analyzed. Infractions which were selected as indicators of student attitudes toward the learning atmosphere included: truancy, insult of a teacher, damage to school property, and leaving school without permission. Only those infractions which warranted suspension from school were counted. No attempt was made to establish a matched control group, and a tally of all occurrences was made. In most cases more than one infraction was committed by each student. The result of this research is presented in Table 5P.

Table 5P

Frequency of Discipline Infractions
of Core and Non-Core Students
Over a Two-Year Period
(1970-1972)

Discipline Infraction	Core Frequency	Non-Core Frequency
Truancy	2	3
Insult of a Teacher	4	11
Damage to School Property	0	3
Leaving School With- out Permission	8	39
Σf	14	56

The period which includes the 1970-71 and the 1971-72 school years was chosen for this study since records of discipline infractions were complete, and this time period coincided with full scale operation of the Core program.

While incidents of discipline infractions have been credited to either the Core group or the non-Core group, it was found that only a small segment of either group committed all infractions. The mean population of the Core group each year during the period of this study was forty-nine students. The mean population of the non-Core group each year during the period of this study was 420 students. All infractions committed which were credited to the Core group were committed by eleven students. All infractions committed by non-Core students were committed by twenty-three students. The resulting per pupil mean infractions for the Core group was 1.3 and the per pupil mean infractions for the non-Core group was 2.4. This information is presented in Table 5Q.

Table 5Q

Mean Discipline Infractions

Group	Number of Infractions	Number of Students Involved	Mean Infractions
Core	14	11	1.3
Non-Core	56	23	2.4

Several factors were considered in the interpretation of this information. The Core group attended school on an alternate week basis; therefore, the apparent opportunity to be involved in discipline infractions was only half that of the non-Core group. In addition, the Core program stressed individualized instruction and employed a pass-fail system of grading. On the other hand, students were selected for admission to the Core program because of histories of demonstrations of dislike for school.

An examination was made of discipline records of Core students prior to their participation in the Core program. Records were not available for all students, nor were available records equally complete; however, available records did support the identification of students who eventually enrolled in the Core program as those who had been destructive, uncooperative, and negative toward school. Early anecdotal records characterized eventual Core students as chronic discipline problems.

Since no valid quantification of mean discipline infractions for the pre-Core period could be established, no meaningful comparison could be made with mean infraction data for the period during which students were enrolled in the Core program. This lack of comparison data for the pre-Core and during-Core experience periods prevents any statistical

assessment of improvement in Core student attitudes toward the learning atmosphere. It is noteworthy, however, that while involved in the Core program, Core students who committed discipline infractions did so at a lower rate than offenders from the non-Core group.

As a result of this research concerning discipline infractions as an unobtrusive indicator of student attitude toward the learning atmosphere, it has been found that Core students as a group committed more infractions per pupil than the non-Core group. It was also found that if attention was focused only upon those students who committed the discipline infractions, the Core group offenders committed fewer infractions per pupil than the non-Core offenders. Since the Core students had been earlier identified as potentially chronic offenders, this last fact has been considered an important unobtrusive indicator that the group attitude of Core students toward the learning atmosphere had improved during the period of Core program experience.

Attendance records

Attendance records have been studied as an unobtrusive indicator of student attitudes toward the learning environment. This facet of the study has been separated into two parts: a comparison of school attendance by Core students before and during Core participation, and a comparison of

school attendance by Core students with the attendance of the general school population.

The comparison of school attendance by Core students before and during enrollment in the Core program was limited to include only those students who had completed two years in the Core program and who had attended Martha's Vineyard Regional High School in grade nine. The members of both groups are the same. The results of this research are presented in Table 5R.

Table 5R

Comparison of Student Attendance
Between Pre-Core Period
and During-Core Period

Group	n	Possible Pupil Days	Pupil Days Present	Percent of Attendance
Pre-Core (grade 9)	23	4140	3307	79.8
During-Core (school year 1971-72)	23	2070	1771	85.7

The rate of attendance in grade nine for students who later enrolled in the Core program was 79.8 percent. No formal processes were followed to compare this rate with mean attendance rates for grade nine populations in general, but it was determined that the attendance rate of the study group was lower than the rate normally anticipated for grade nine.

Attendance records for 1971-72 were examined for those Core students who had participated in the program for a minimum of two years and whose attendance records for grade nine constituted the pre-Core group data. The rate of attendance registered by the during-Core group was 85.7 percent.

The Core group participated in work experience in the community on an alternate week basis, and only attendance at school was included in the computation of the percent of attendance for this group. This fact is reflected in the figures for possible pupil days shown in Table 5R.

As a result of this research it has been found that the rate of school attendance for Core students had improved over levels established by them in grade nine. This fact has been considered an unobtrusive indicator of improved student attitudes toward the learning atmosphere.

The second part of the study concentrated upon a comparison of Core attendance with the attendance of the total school population. Attendance records for the years 1970-71 and 1971-72 were analyzed to provide the information presented in Table 5S.

Table 5S

Mean School Attendance of
Core Group and Total
School Population
(1970-1972)

Group	Mean Population	Mean Daily Attendance	Percent of Attendance
Core	49	43	87.8
Total School Population	469	387	82.6

The mean Core population for the period of this study was forty-nine students. The rate of daily attendance of the Core group was 87.8 percent. The mean population of the entire school, including Core students, during the same period, was 469 students. The rate of attendance for this group was 82.6 percent. Once again, only attendance at school was counted in the computation of these figures. Core students alternated weeks in school with weeks at work experience stations in the community; however, it has been established that students were rarely absent from apprenticeship stations. If attendance records for work periods had been included in this study the percent of attendance for Core students would have been larger.

The result of this research has shown that students enrolled in the Core program attended school more regularly

than the general school population. This information has been interpreted as an unobtrusive indicator that Core students held relatively positive attitudes toward the school atmosphere. This represents a change in attitude over that held by the Core group prior to enrollment in the Core program.

Interviews of selected teachers and administrators

Interviews of several teachers and administrators were conducted by the investigator in the late spring of 1972. The object of these interviews was to determine the opinions held by teachers and administrators relative to changes which had been noted in Core student attitudes toward the learning atmosphere. The interviews included three teachers who had taught Core students before they had enrolled in the Core program, the assistant principal, who had been responsible for all discipline matters in the school, and the acting coordinator of the Core program. Each of those interviewed expressed the belief that Core students had experienced a positive change in attitude toward school during participation in the Core program. Those interviewed noted that after students became active in the Core program, the students were less boisterous in school, less argumentative toward teachers and less frequently involved in discipline infractions. While much of

the cause for these changes could be attributed to student maturation and a less strict school environment, those interviewed expressed the belief that participation in the Core program had been a major factor in bringing about the noted changes. The assistant principal expressed a particularly firm opinion that enrollment in the Core program was the single most important factor in reducing the level of aggression against the school which had been formerly expressed by Core students.

These perceptions held by teachers and administrators have been accepted as unobtrusive indicators of positive changes in Core student attitudes toward the learning atmosphere.

C H A P T E R VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary, conclusions and recommendations which resulted from the multi-faceted assessment of the cooperative education program of Martha's Vineyard Regional High School. The study has attempted to organize and utilize all available relevant information to assess the stated objectives of the program. It included elements of "soft" research as well as research design which was structured as experimentally as the available data would allow. The procedures, techniques and instruments which were used were selected to measure as closely as possible; however, the degree of validity of the results obtained has been limited by the quasi-experimental nature of the study. The time period of the study ranged from the spring of 1969 through June of 1972, although data was collected from records which antedate that period.

Summary

Objectives

The major objectives of this study have been twofold: to provide an historical narrative which included a description of the inception, organization and operation of

the Martha's Vineyard Regional High School Core program; and to provide an assessment of the degree to which the objectives of that program were met. To meet those objectives the following purposes were achieved:

1. Through a study of documents from the Massachusetts State Department of Education, Division of Occupational Education; minutes of meetings of the Martha's Vineyard Regional High School Committee, the Core advisory committee, and the Core planning committee; correspondence; records; reports; and notes of interviews, major actors and incidents were identified which were critical to the inception, development, and operation of the Core program.
2. Through the use of a matched comparison group, quasi-experimental modified time series design which utilized the Stanford Achievement Test, the relative effectiveness of the Core program as a modifier of the cognitive development of participating students with specific regard for mathematics computation and reading comprehension was determined.
3. Through the use of a modified pretest-posttest, quasi-experimental, four-group design, the relative changes in perceptions of self-esteem which occurred during enrollment in the Core program

were assessed. The Self Esteem Inventory, administered to the entire student body in May of 1971 and again in May of 1972, was used to determine changes.

4. Through the use of a modified pretest-posttest, quasi-experimental, four-group design, change in attitude toward the learning environment experienced by students during participation in the Core program was assessed. The Learning Atmosphere Attitude Scale, administered to the entire student body in May of 1971 and again in May of 1972, was used to assess this change.
5. Through the use of a modified structured and standardized interview conducted in the late spring of 1972 by telephone and through personal contact, the opinion of fifty-three selected parents of Core students was determined concerning the assessment of the Core program as a form of vocational education, as factor of student self-esteem, and as a factor of student attitude toward school. The instrument used was a modification of one developed for the Neighborhood Youth Corps by Educational Testing Service.
6. Through the use of a modified structured and standardized interview conducted in the late spring of 1972 by telephone and personal contact, the

opinion of thirty-seven selected cooperating employers was determined concerning assessment of the Core program as a form of vocational education. The instrument used was a modification of one designed by Educational Testing Service for the Neighborhood Youth Corps.

7. Through on-site observations, unobtrusive measures, interviews, correspondence, notes, and school records, assessments were made of the degree to which the four objectives of the program were accomplished.
8. Through an analysis and synthesis of the findings revealed by the procedures described above, conclusions were developed concerning the degree to which the objectives of the Core program were reached. These conclusions were largely based on emergent patterns and trends rather than on specific or absolute differences.
9. From the conclusions developed from the study, recommendations were made possible concerning: changes which would redirect the program closer toward its objectives, improved provisions for future assessment procedures, and modifications to the program to extend the concept to include a wider segment of the student body of Martha's Vineyard Regional High School.

Methodology

The study consisted of two types of research: an historical narrative case study and a multi-faceted assessment design. While the identity and integrity of each component has been retained, it is inevitable that they interdepend.

Data from a variety of sources was collected and analyzed to describe the inception, planning, organization and operation of the Martha's Vineyard Regional High School Core program. The resulting narrative description identified major actors and incidents relative to each of those phases. Data and information sources included: minutes of the program planning committee, minutes of the Martha's Vineyard Regional High School committee, minutes of the Core advisory committee, correspondence, documents pertaining to funding proposals from the Massachusetts State Department of Education, periodic reports, notes of interviews, and conversations. The historical narrative described the specialized program of study, and it served as the frame of reference for the multi-faceted assessment of the relative degree of accomplishment of the selected objectives for the Martha's Vineyard Regional High School Core program.

A multi-faceted assessment methodology was used to determine the effectiveness of the Core program in meeting the selected objectives. For some objectives a quasi-experimental design was used, complemented with assessment based on other research procedures. Through this technique,

several sources of assessment data were used for each of the objectives rather than relying upon a single procedure. This approach has been used to strengthen the validity of the findings since in field studies such as this, only quasi-experimental procedures are possible; therefore, multiple assessment indicators are recommended.

Summary of Findings

The Martha's Vineyard Regional High School Core program was developed to provide a form of education for a group of students whose needs had not previously been met by the school. These students were identified as being vocationally inclined, educationally disadvantaged, and dropout-prone. The program which was developed to serve these students established several characteristics which were unique in contrast to the rest of the school.

The educational program which evolved during the period of this study provided diverse vocational training through cooperative arrangements with employers in the community. Other distinctive features of the Core program included: individualized academic instruction which was related to student vocational interests, a learning atmosphere which stressed cooperation rather than competition, a system of pass-fail grading, ungraded classes in which each student was taught at a level and pace commensurate with his abilities, and a support system comprised of parents, em-

ployers and teachers who provided encouragement for students to capitalize on successful experiences.

The stated objectives of the Core program were developed to guide the program in its role as an alternative form of education which would more closely meet the needs of those students who had become disaffected by the normal educational environment. These refined objectives were four in number and were intended to be comprehensive for the type of educational program which was developed. The objectives were:

1. To provide vocational training and education suitable to the interests and abilities of each student.
2. To improve the academic achievement of each student, especially in reading and mathematics.
3. To develop the human potential via improvement of the self-concept or self-esteem of each student.
4. To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant, teachers and administration.

Objective Number One

To provide vocational training and education suitable to the interests and abilities of each student.

Several different methods and sources were used to assess the degree to which the first objective had been met.

Survey research conducted with parents and cooperating employers was used, as were several unobtrusive assessment indicators.

Findings from parent survey

Responses to items of the Parent Program Assessment Inventory which addressed the first objective indicate that the parents of Core students unanimously desired that vocational education be provided to their children. Furthermore, nearly all respondents (ninety-four percent) believed that the Core program provided the best educational program available. Most parents also felt that their children were learning vocational skills which would have been otherwise unavailable.

In view of the strong desire for vocational education which was expressed by parents, the fact that ninety-four percent of the respondents indicated satisfaction with the program permits the assessment that the program has met the first objective relatively well. Slightly over one-half of the responding parents preferred cooperative vocational education over a completely in-school program, if such a program were available. Furthermore, in nearly all cases, both parents of each student agreed that the Core program was the program best suited to the needs of their child. There was almost unanimous agreement among respondents that the Core program had provided useful vocational education.

Considered comprehensively, parent responses to items of the PPAI which addressed the first objective of the Core program indicated that the program had almost completely succeeded in providing suitable vocational education for each student.

Findings from employer survey

The responses of cooperating employers to items of the Employer Program Assessment Inventory which pertained to the first objective indicate that employers are interested in training young people in their respective trades and believe that they are capable of providing the necessary training. Nearly ninety percent of the responding employers preferred on-the-job training as the best source of vocational education for the trades surveyed. Surveyed cooperating employers also indicated that they strongly believed that they were capable of keeping students interested in learning vocational skills. Nearly all employers indicated a willingness to employ student trainees after graduation, and employers unanimously believed that the Core program had been effective as a source of vocational training.

Findings from unobtrusive measures

Several unobtrusive indicators were employed to assess the first objective. These sources included a review of Kuder Preference Records, counseling notes, and opinions gathered from sectors of the community which were not direct-

ly involved with the Core program. The review of Kuder Preference Records provided evidence that students had been placed in vocational training which was positively correlated with individual vocational interest as recorded on the Kuder instrument. A similar correlation was found through an examination of counseling notes and student training placement. The results of this research support the conclusion that students were placed in vocational training which was well-suited to the interests and abilities of each student in nearly all cases.

Informal feedback was gathered of the opinion held by sectors of the community not directly involved with the Core program relative to the effectiveness of the program as a source of vocational education. The consensus was that the Core program was meeting its first objective to a very large degree.

In summary, the results of research from all sources support the assessment that the Core program had been largely successful in providing vocational education which was highly suitable to the interests and needs of each student. While the research methodology which was employed relied heavily on subjective opinions from respondents, the populations surveyed were judged to be the most valid available source of research data. Furthermore, the high degree of consistency of the opinions expressed, despite the diversity of elements within the populations surveyed,

lends additional support to the assessment conclusion which has been drawn.

Objective Number Two

To improve the academic achievement of each student, especially in reading and mathematics.

The quasi-experimental research design which was used to assess the second objective provided Delta scores which indicated trends of change rather than absolute growth in cognitive development. These rates of change scores have provided a basis for assessment of the effect which Core participation has had on a representative sample of enrolled students.

Findings related to reading improvement

An analysis of the Delta or trend scores indicated that the level of reading achievement for Core students was improved during the time period that students participated in the Core program. The reading scores of Core students had trended downward prior to enrollment in the Core program but this trend had been reversed and rose significantly when contrasted with the reading scores of a matched comparison group of general studies students.

Since the research design did not control all factors which affected both groups, it is not possible to ascribe the cause of reading achievement improvement enjoyed by the

Core group exclusively to participation in the Core program. While no firm cause and effect conclusions can be made, it appears that participation in the Core program had been a major, if not the only, factor in bringing about the improvement in reading achievement which was revealed by the research.

The findings of the research on reading achievement support the conclusion that the reading skills of Core students had significantly improved during the period in which students were enrolled in the Core program. These findings permit a strong positive assessment of the degree to which the second objective of the Core program was achieved, at least as it pertains to reading skills.

Findings related to mathematics achievement

An analysis of the Delta scores or trend scores which pertained to mathematics achievement indicated that the mathematics achievement of Core students was improved during the time period in which students were enrolled in the Core program. The mathematics achievement of the Core group trended downward prior to enrollment in the Core program but this trend was reversed during the period when students participated in the Core program. The identification of this trend permits the assessment that the second objective of the Core program was achieved as it pertained to mathematics achievement.

The changes which occurred in the mathematics achievement scores of the Core group were more dramatic than those found for reading achievement. Unlike the reading achievement research, however, no meaningful contrast was possible between the mathematics achievement scores of the Core group and the matched comparison group. While the trends in mathematics achievement between the two groups differed dramatically, the range of the scores registered by the two groups was not significant. Because of this fact, there is little basis for any conclusion which attributes the improvement registered by Core students in mathematics achievement to participation in the Core program.

Cause and effect relationships notwithstanding, the mathematics achievement of the Core group was improved during the period that students were enrolled in the Core program. This fact permits the conclusion that the second objective of the Core program had been met: to improve student achievement in both reading and mathematics.

Objective Number Three

To develop the human potential via improvement of the self-esteem or self-concept of every student.

Several different research methodologies and data sources were employed to assess the degree to which the third objective had been accomplished. Quasi-experimental, modified time-series research was used to determine student

assessment of improved self-esteem, and survey research was conducted to determine parents' opinions of the degree to which Core students' self-esteem was improved.

Findings from the quasi-experimental research

Coopersmith's Self Esteem Inventory was employed as the instrument in the quasi-experimental research to determine student-reported levels of self-esteem. The results of this research did not permit the identification of a cause and effect relationship between improved student self-esteem and participation in the Core program. The results of this research did, however, provide statistically significant data to permit comparison between groups and indicated that the self-esteem of the Core group had improved between the two administrations of the self-esteem instrument, an improvement trend not demonstrated by two of the other three groups which comprised the comparison group population. The within-group improvement trend shown by the Core group indicated that the self-esteem level had not been raised to a statistically significant level. The assessment conclusions which are based on these findings are that the third objective of the Core program has not been met.

Findings from survey research

Parent responses to items of the Parent Program Assess-

ment Inventory which pertained to student self-esteem provided evidence which strongly supports the conclusion that Core student levels of self-esteem had been improved. In addition, the results of survey research appeared to imply that much of the parent-reported improvement in student self-esteem was the result of Core participation. The degree to which a cause and effect relationship existed could not be established from the research data, however.

In summary, the results of the research on self-esteem have supported the assessment that the group level of self-esteem for Core students had improved during the time period wherein students were enrolled in the Core program. Research results from different sources disagreed concerning the degree to which levels of student self-esteem had improved; however, all sources indicated some improvement. None of the research sources provided firm support for cause and effect relationship conclusions. Moreover, the results of the quasi-experimental research on student-reported levels of self-esteem lacked statistical significance. Based on the above facts, it has been concluded that the third objective of the Core program, as assessed by multiple sources, was not achieved to a statistically significant degree.

Objective Number Four

To improve the attitude of each student toward his learning atmosphere, particularly toward the school plant,

teachers and administration.

A variety of research methodologies and data sources were utilized to assess the degree to which the fourth objective was attained. Quasi-experimental, modified time-series research was used to determine the self-reported levels of student attitudes toward the learning environment. Survey research was employed to determine parents' assessment of the degree of improvement which had been noted in student attitudes toward the school. In addition, research was conducted which focused on unobtrusive measures as assessment indicators of student attitudes toward the school. Research results from all of these sources were synthesized to provide an assessment of the degree to which the fourth objective was met.

Findings from the quasi-experimental research

The results obtained from the quasi-experimental, modified time-series research indicated that the attitude of the Core group toward the learning atmosphere was improved during the research period. The degree of improvement in attitude registered by the Core group was not duplicated by any of the three subgroups which comprised the comparison group. Furthermore, the Core group attitude improvement which was found by this research was statistically significant. The design of this research did not provide adequate

controls of the factors which affected the groups; therefore, no conclusions could be made concerning cause and effect relationships. Regardless of cause, however, the Core group experienced a statistically significant positive change in attitude toward the learning atmosphere during the period of the study. This finding supports the assessment that the fourth objective of the Core program had been attained.

Findings from survey research

Parent responses to items of the Parent Program Assessment Inventory which pertained to student attitudes toward the learning atmosphere have provided evidence to support the conclusion that the attitudes of Core students were materially improved during the period of this study. The cause of this reported improvement could not be attributed exclusively to participation in the Core program, although the results of the survey research implied that the Core program had been a major factor in the improvement in student attitudes noted by parents.

Findings from unobtrusive measures

A review of discipline infraction records, attendance records, and interviews with teachers and administrators have provided data and information which served as a basis of assessment of the fourth objective of the Core program. These unobtrusive sources support the assessment that Core

student attitudes toward the learning atmosphere had been improved during the period of this study. While enrolled in the Core program, students who committed discipline infractions did so at a lower frequency rate than non-Core offenders. In addition, the attendance rate for Core students was higher than the rate of attendance established by the total school population during the same time period. Furthermore, the teachers and administrators who were informally interviewed indicated that the general behavior of Core students had improved during their participation in the Core program. These unobtrusive indicators have provided a basis for the assessment that the fourth objective was attained.

The indications from all sources appear to agree that the attitude of Core students toward the learning atmosphere had been improved during participation in the Core program. None of the research sources provide adequate evidence that the improvement in student attitudes was exclusively the result of Core participation, however. Some of the research results imply that the Core program caused the improvement in student attitude toward the learning atmosphere, but the design of the research did not permit positive identification of the degree to which this might be true.

Recommendations

Based on the findings of the research, on the experience gained from conducting the research, and on experience gained through coordinating the Core program, recommendations

are made concerning changes which should be made in the Core program and in the assessment procedures which are followed in the future.

Recommended Changes in the Core Program

A number of weaknesses in the Core program were identified by the assessment research and by the observations of the investigator. The following recommendations are made to remedy the identified weaknesses.

1. To continue improvement of the self-esteem of Core students, greater recognition should be given to the accomplishments of Core students. Ideally, such recognition should be provided by student peers to provide the greatest positive effect.
2. To improve mathematics achievement, instruction in mathematics and science should be combined and taught by a single instructor. By this arrangement practical science applications and the concomitant mathematics could be more closely related and mathematics instruction would be reinforced.
3. More use should be made of human resources available in the community. Members of the advisory committee and other skilled and knowledgeable persons should be brought into the school as sources of instruction more frequently and more regularly.
4. Periodic and regular testing should be conducted to provide students with group test experience and

to provide measurement data for mathematics and reading achievement. Heretofore students have lacked experience in taking tests.

5. The objectives of the Core program should be reviewed periodically by the Core faculty to determine the validity of the objectives and to provide a frame of reference for curriculum reconstruction and redesign.
6. The advisory committee should be more extensively relied upon as a source of cooperative employment for students who desire vocational training in unusual occupations. Through this source it may be possible that more students can be apprenticed in occupations which are their first choice.
7. More and better vocational skill training should be provided during the in-school phase of the Core program. This skill training should specifically enhance the vocational training which each student receives at his work assignment.

Recommended Changes in Assessment Procedures

The design of the research employed in this study has served the purpose for which it was proposed; however, in many cases the research results were not conclusive enough to permit precise measurement of objectives. While it was accepted at the outset of this study that precise measure-

ment would not be obtained, the vagueness of some of the results which were obtained has inspired a desire to find more definitive measurement of program results.

In addition, as a result of this study, other assessment sources have become identified and should be re-searched. Some of these research sources did not exist until several classes had graduated from the Core program.

The recommended changes in assessment procedures include the following:

1. Pretest data which relates to the objectives should be collected for all students prior to their entrance in the Core program. This comparison data will permit measurements of changes which occurred during participation in the Core program.
2. Provision should be made to conduct research which identifies the factors of the Core program which contribute to the achievement of the program objectives. Through some form of factor analysis a more accurate cause and effect relationship may be identified which could provide reason for the emphasis and development of those practices which caused the desired results. Extensive research in this area is recommended.
3. Research methods which are more experimental are

recommended to assess some of the objectives. The use of matched control groups appeared to provide a more conclusive basis for comparison than the comparison of within-group scores over time which were used alone. Whenever possible, pretest-posttest, experimental group-control group scores should be utilized to provide a more valid basis for the assessment of change.

4. Standardized instruments should be selected and used consistently and regularly to assess the qualities which are the object of the program. In some cases, instruments which are valid for the objectives should be locally designed and consistently used.
5. A bank of data which pertains to the objectives should be maintained and regularly added to. This data bank can provide local norms as a basis of evaluation for both short term and long term changes which occur.
6. The Core teachers should become more directly involved with the assessment of the objectives. In a sense, the program objectives are performance criteria for teachers as well as for students; therefore, by means of an awareness of the objectives heightened by the teacher's participation in assessment activities, the teacher may focus his teaching efforts more closely upon the objectives

desired.

7. The results of assessment should be immediately shared with teachers and cooperating employers. The object of this recommendation is to provide group attention to both the strengths and weaknesses of the program. Hopefully, the knowledge of the reported strengths will provide positive reinforcement for those practices which caused the success to occur. Furthermore, the knowledge of the reported weaknesses will provoke an alteration of practices to reverse the results which were weak.
8. Additional sources of research data should be employed. A survey of recent Core program graduates should be conducted and should include questions which elicit assessment of the Core objectives. A provision should be made on the graduate survey for open-ended responses to encourage the expression of subjective views.

Final Comments

The Martha's Vineyard Regional High School cooperative education program had been in operation for three years at the time this study was completed. While many of the assessment findings were imprecise and inconclusive, it generally appears that during the three years of operation,

the Core program has been quite successful in meeting its objectives.

Throughout the history of the Core program, its objectives have served as targets toward which all of the activities of the program have been aimed. Modifications and changes were implemented to cause the program to more closely approach the objectives; furthermore, this study has been principally concerned with the assessment of the degree to which the objectives were attained.

In the final analysis, while assessment is important in determining the success of the program, the processes and practices which were employed within the Core program may well be as important as the achievement of the objectives. The process of education which was offered through the program provided a distinct alternative to those processes offered by the regular school programs. In retrospect, it may be that the objectives of the Core program could have been achieved more expeditiously through other processes than those which were employed. In the view of the investigator, such a pragmatic approach would have been a mistake, since the Core program has become locally identified as a distinct alternative form of education, and it is its processes which have given the Core program this identification.

No claim is made that the Core program is free of faults; neither is any made that it is unlike programs else-

where. However, for its setting, for its time, and for its clients, the Core program has provided appropriate educational responses to unique local needs.

I recur to the thought of the Benedictines, who saved for mankind the vanishing civilization of the ancient world by linking together knowledge, labor, and human dignity... In education we must guard against taking a mean view of technical training, rather we must exercise our creative energies to teach our youth all which they will have need to know through whatever means at hand.¹

¹Alfred North Whitehead, The Aims of Education (New York: The Free Press, 1967), pp. 58-9.

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APPENDIX A

Martha's Vineyard Regional High School

Cooperative Education Program
Parent's Program Assessment Inventory

Name of Parent _____ Phone _____

Address _____ Date of interview _____

Name of Student _____

Hello, M _____ I am _____

and I would like to ask for your cooperation in answering a few short questions about the Core Program. Your answers will be used to assess and improve the program but you will not be identified by name.

I would like to ask a series of questions about how you or your child feels about the Core Program. Please try to answer as frankly as you can since we need your honest opinion.

- | | | |
|--|-----|----|
| 1. Do you want Martha's Vineyard Regional High School to provide Occupation Education for those students who desire it? | YES | NO |
| 2. Do you want your child to receive a vocational or a job-skill education? | YES | NO |
| 3. Is your child learning a trade or a vocational skill in the Core Program which the regular school program could not provide? | YES | NO |
| 4. Are you relatively satisfied with the education that your child is receiving through the Core Program? | YES | NO |
| 5. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you prefer that your child be enrolled in it rather than the Core Program? | YES | NO |

- | | | | |
|-----|--|-----|----|
| 6. | Does your child believe that the Core Program is the best educational program available for him? | YES | NO |
| 7. | Do you believe that the Core Program is the best education program available for your child? | YES | NO |
| 8. | Do you and your spouse agree that the Core Program is the best available course of study for your child? | YES | NO |
| 9. | Has the Core Program done a good job in providing a useful vocational education for your child? | YES | NO |
| 10. | Would your child remain in school if the Core Program was no longer available? | YES | NO |
| 11. | Is your child learning more in the Core Program than he did in his former program of study? | YES | NO |
| 12. | Has your child expressed any sense of accomplishment in developing vocational skills as a result of his participation in the Core Program? | YES | NO |
| 13. | Did your child's interest in his education improve as he became involved with the Core Program? | YES | NO |
| 14. | Is your child learning a useful job-skill through the Core Program? | YES | NO |
| 15. | Has being in the Core Program improved your child's opinion of himself? | YES | NO |
| 16. | Has being in the Core Program improved your child's self-confidence? | YES | NO |
| 17. | Did your child improve in any other way after he became active in the Core Program? | YES | NO |
| 18. | Have you any criticisms or suggestions for the Core Program? | YES | NO |
| 19. | Please briefly tell me what you would like changed. _____ | | |

Martha's Vineyard Regional High School

Cooperative Education Program
Employer's Program Assessment Inventory

Name of business _____ Phone _____

Name of person interviewed _____ Date of interview _____

Name of student trainee _____ Occupation _____

Hello, M _____ I am _____

and I would like to ask your cooperation in answering a few questions about the Core Program. Your answers will be used to assess and improve the program but you will not be identified by name.

I'd like to ask you a series of short questions concerning how you feel about the Core Program. Please be completely frank and honest in stating your opinions since it is important that we know exactly how you feel.

- | | | |
|---|-----|----|
| 1. Do you recommend that young people go into your trade or business? | YES | NO |
| 2. Do you believe that on the job training is the best method of learning the vocational skills required in your line of trade or business? | YES | NO |
| 3. Are student-trainees from the Core Program with whom you have worked interested in learning the job skills you have tried to teach? | YES | NO |
| 4. Have you been successful in teaching the necessary job skills to your student trainees? | YES | NO |
| 5. Did you accept the responsibility of providing job skill training for your student-trainees willingly? | YES | NO |

6. Would you accept a similar responsibility again? YES NO
7. If you had a job opening available, would you hire your student-trainee on a full time basis? YES NO
8. Do you believe that the Core Program has been a successful method of providing vocational education for students who are interested? YES NO
9. If a completely in-school vocational training program was available at Martha's Vineyard Regional High School, would you recommend that your student-trainee be enrolled in it rather than in The Core Program? YES NO
10. Have you any criticisms or suggestions for the improvement of The Core Program? YES NO
11. Please briefly state your criticisms or suggestions.

LEARNING ATMOSPHERE ATTITUDE SCALE

Form A

Directions

On the following pages you will find thirty statements that a person such as yourself might make about his or her school and education. You are asked to read each statement carefully and then give your honest and frank opinion to the statement. This is not a test and there are no right or wrong answers. Please feel free to answer exactly the way you feel about your school and not how you think other people (teachers, parents, students, etc.) might want you to feel. Your answers will be kept confidential.

You have all been provided with an answer sheet to be used in marking your responses. Please record all of your answers on the answer sheet with a pencil. Please answer all of the questions.

In answering the questions try to follow these steps:

1. Read the statement carefully.
2. Think about how the statement relates to your school.
3. Find the number on the answer sheet that matches the statement you are considering.
4. For each question, blacken only one space on the answer sheet. Use the following instructions.

If you strongly agree with the statement, your answer to the question would look like this on the answer sheet:

1. 2. II 3. II 4. II 5. II

If you agree with the statement, your answer to the question would look like this on the answer sheet:

1. II 2. 3. II 4. II 5. II

If you are undecided about the statement, your answer to the question would look like this on the answer sheet.

1. II 2. II 3. 4. II 5. II

If you disagree with the statement, your answer to the question would look like this on the answer sheet:

1. II 2. II 3. II 4. 5. II

If you strongly disagree with the statement, your answer to the question would look like this on the answer sheet:

1. II 2. II 3. II 4. II 5.

5. Try to avoid blackening "Undecided" if possible.
6. This scale is not timed but work as fast as you can.

Developed by Ronald H. Fredrickson and Francis D. Kelly
School of Education, University of Massachusetts
Amherst, Massachusetts

April 1972

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. I go to school only because I have to.	1	2	3	4	5
2. Teachers are usually understanding when a student does something wrong.	1	2	3	4	5
3. Only a few teachers in this school seem capable of handling both the fast and slow students.	1	2	3	4	5
4. The facilities in this school make it difficult to be a good student.	1	2	3	4	5
5. If I had my choice, I would choose to go to another school.	1	2	3	4	5
6. My teachers really know me.	1	2	3	4	5
7. There are few activities that I care to join in school.	1	2	3	4	5
8. There is little opportunity in school to do the things that I enjoy doing.	1	2	3	4	5
9. I would like to take an active part in school elections.	1	2	3	4	5
10. Most of my classes are boring and have no connection with my life today.	1	2	3	4	5
11. In this school, students treat each other with respect.	1	2	3	4	5
12. Students don't have enough books and materials available to them in this school.	1	2	3	4	5
13. A student can take little pride in the appearance of this school.	1	2	3	4	5
14. Most of the classrooms in this school seem dull and unexciting.	1	2	3	4	5
15. Teachers are considerate of my feelings.	1	2	3	4	5
16. My own opinions are just as important as the opinions of other students.	1	2	3	4	5
17. Assignments need to be more understandable.	1	2	3	4	5

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
18. I feel that I am doing well in school.	1	2	3	4	5
19. Homework assignments are not purposful.	1	2	3	4	5
20. I think that I will earn awards by the time I finish high school.	1	2	3	4	5
21. Teachers do too much talking in class.	1	2	3	4	5
22. I can express strong personal beliefs in my classes.	1	2	3	4	5
23. I can understand the teachers most of the time.	1	2	3	4	5
24. Teachers have an "I don't care" attitude when a student needs extra attention.	1	2	3	4	5
25. I like to support the big school events.	1	2	3	4	5
26. This school is more concerned with rules and regulations than with what we are learning.	1	2	3	4	5
27. My school subjects are related to what I want to do with my life after high school graduation.	1	2	3	4	5
28. The textbooks are understandable.	1	2	3	4	5
29. A student needs permission to do most things in this school.	1	2	3	4	5
30. High school education makes a person a better citizen in the community.	1	2	3	4	5

SELF-ESTEEM INVENTORY

Please mark each statement in the following way on your answer sheet:

If the statement describes how you usually feel, fill in the block under the small number (1) (LIKE ME).

If the statement does not describe how you usually feel, fill in the block under the small number two (2) (UNLIKE ME).

There are no right or wrong answers.

Use section III of the answer sheet to record your answers.

	LIKE ME	UNLIKE ME
101. I spend a lot of time day-dreaming.	1	2
102. I'm pretty sure of myself.	1	2
103. I often wish I were someone else.	1	2
104. I'm easy to like.	1	2
105. My parents and I have a lot of fun together.	1	2
106. I find it very hard to talk in front of the class.	1	2
107. I wish I were younger.	1	2
108. There are lots of things about myself I'd change if I could.	1	2
109. I can make up my mind without too much trouble.	1	2
110. I'm a lot of fun to be with.	1	2
111. I get upset easily at home.	1	2
112. I'm proud of my school work.	1	2
113. Someone always has to tell me what to do.	1	2
114. It takes me a long time to get used to anything new.	1	2
115. I'm often sorry for the things I do.	1	2
116. I'm popular with kids my own age.	1	2
117. My parents usually consider my feelings.	1	2

	LIKE ME	UNLIKE ME
118. I'm doing the best work that I can.	1	2
119. I give in very easily.	1	2
120. I can usually take care of myself.	1	2
121. I'm pretty happy.	1	2
122. I would rather play with children younger than me.	1	2
123. My parents expect too much of me.	1	2
124. I like to be called on in class.	1	2
125. I understand myself.	1	2
126. It's pretty tough to be me.	1	2
127. Things are all mixed up in my life.	1	2
128. Kids usually follow my ideas.	1	2
129. No one pays much attention to me at home.	1	2
130. I'm not doing as well in school as I'd like to.	1	2
131. I can make up my mind and stick to it.	1	2
132. I really don't like being a boy/girl.	1	2
133. I have a low opinion of myself.	1	2
134. I don't like to be with other people.	1	2
135. There are many times when I'd like to be with other people.	1	2
136. I often feel upset in school.	1	2
137. I often feel ashamed of myself.	1	2
138. I'm not as nice looking as most people.	1	2
139. If I have something to say, I usually say it.	1	2
140. Kids pick on me very often.	1	2

	LIKE ME	UNLIKE ME
141. My parents understand me.	1	2
142. My teacher makes me feel I'm not good enough.	1	2
143. I don't care what happens to me.	1	2
144. I'm a failure.	1	2
145. I get upset easily when I'm scolded.	1	2
146. I usually feel as if my parents are pushing me.	1	2
147. Most people are better like than I am.	1	2
148. I often get discouraged in school.	1	2
149. Things usually don't bother me.	1	2
150. I can't be depended on.	1	2

APPENDIX B

EMPLOYER PROGRAM ASSESSMENT INVENTORY:
 FREQUENCY OF RESPONSES BY ITEMS

n=37

Item Number	Positive Response	Negative Response	No Response
1	37		
2	33	4	
3	37		
4	37		
5	37		
6	37		
7	34	3	
8	37		
9	10	27	
10	9	28	
11	Does not apply		

PARENT PROGRAM ASSESSMENT INVENTORY:
 FREQUENCY OF RESPONSES BY ITEMS

n=53

Item Number	Positive Response	Negative Response	No Response
1	53		
2	53		
3	51	2	
4	50	3	
5	23	30	
6	53		
7	50	3	
8	41	2	10
9	51	2	
10	12	41	
11	42	10	1
12	43	10	
13	41	11	1
14	51	2	
15	50	3	
16	50	3	
17	40	11	2
18	1	46	
19	Does not apply		

PERCENTILE RANK MATHEMATICS SCORES
STANFORD ACHIEVEMENT TEST
NATIONAL NORMS

Student	Core			Matched Comparison Group		
	Grade 7	Grade 9	Grade 11	Grade 7	Grade 9	Grade 11
1	1	1	1	1	1	1
2	20	15	28	20	7	6
3	5	2	7	15	17	19
4	45	47	62	35	37	40
5	1	1	1	25	24	36
6	1	1	1	12	18	20
7	1	1	4	52	54	60
8	33	34	40	60	60	66
9	10	10	12	35	30	47
10	25	23	40	40	40	42
11	30	22	18	23	23	28
12	48	46	54	10	11	15
13	50	47	53	45	46	56
14	60	49	52	40	40	43
15	41	36	42	35	34	36
16	50	45	63	50	52	54
$\sum X$	421	350	478	498	494	569
\bar{X}	26.3	21.9	29.9	31.1	30.9	35.6

PERCENTILE RANK READING SCORES
STANFORD ACHIEVEMENT TEST
NATIONAL NORMS

Student	Core			Matched Comparison Group		
	Grade 7	Grade 9	Grade 11	Grade 7	Grade 9	Grade 11
1	1	1	1	1	1	1
2	35	20	46	31	25	25
3	25	23	34	22	17	23
4	45	47	60	30	35	35
5	15	15	18	12	18	16
6	18	12	14	25	27	24
7	30	26	32	47	50	50
8	21	16	32	30	28	30
9	12	6	22	42	45	40
10	25	14	38	38	42	45
11	42	44	58	17	18	20
12	12	10	10	22	20	24
13	30	34	36	43	51	51
14	53	68	82	8	8	10
15	26	28	45	10	10	10
16	25	26	28	32	35	38
ΣX	415	390	556	410	430	442
\bar{X}	25.9	24.4	34.8	25.6	26.9	27.6

