A Comparison of Two Types of Vocational Training

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A COMPARISON OF TWO TYPES OF VOCATIONAL TRAINING

by

Harry Edwin Clay

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

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CHAPTER I

THE PROBLEM

Introduction

Career education has recently emerged as a new emphasis in education in the United States. Sidney Marland, United States Commissioner of Education, indicated career education was basically a point of view, a concept that said three things:

First, that career education will be a part of the curriculum for all students, not just some.

Second, that it will be continuous throughout a youngster's stay in school.

Third, that every student leaving school will possess the skills necessary to give him a start in making a livelihood for himself and his family even if he leaves before the completion of high school (Marland, 1971, p. 25).

Marland further stated that in the 11th and 12th grades, a student would pursue his selected job area even more intensely which could mean acquiring skills that would enable him to take a job immediately upon leaving high school.

Guidelines on how the acquisition of skills should take place were not established, nor was it established where these skills should be acquired; however, Marland stressed that they should be acquired. The question of how raised considerable concern for many educators, as well as the question of what kind of vocational education program was perceived by students to be the most favorable.
Rationale for the Study

Vocational education at the secondary school level has been an important concern of the federal government since the early years of the 20th century. The traditional formal secondary education at that time in many school districts tended not to equip any sizable number of students with specific skills that would assist them to enter the labor market. Thus, many workers have acquired whatever skills they possessed by informal means. Waste connected with on-the-job skill acquisition has been long recognized and was the basis for federal support for vocational training. The Smith-Hughes Act of 1917, the first significant federal grant to secondary school vocational education, provided an annual amount of 7.2 million dollars to assist in the development of the following programs: agriculture, trade and industry, home economics, and funds for the training of vocational teachers (Levitan, 1963). Schools eligible for federal monies had to be publicly controlled, designed to meet the needs of children over 14 in order to fit them for useful employment, and be less than college grade (Schaefer and Kaufman, 1967).

The George-Barden Act of 1946 and the National Defense Education Act of 1958 provided additional federal funds for vocational education. The Vocational Education Act of 1963 strengthened existing vocational education programs and also extended vocational education into areas not covered by previous legislation. The Vocational Education Act of 1963 provided vocational education to enable persons of all ages in all communities to have ready access to high quality vocational training (Levitan, 1963).
The Vocational Education Amendments of 1968 amended all previous vocational education acts and repealed the George-Barden Act of 1946. The declaration of purpose differed from the Vocational Education Act of 1963 in that those post-secondary schools were specified among the groups which will have ready access to vocational training or retraining (Law and Schaefer, 1971).

Early efforts in vocational education in Michigan were primarily in rural areas where farmers felt there was a need to teach vocational agriculture. By 1916, 63 high schools offered courses in agriculture to 2,547 students (Vocational Education, 1963). Following the passage of the Smith-Hughes Act, the Michigan Legislature passed Public Act 189, in 1917, which provided for the utilization of federal and state funds in accordance with the federal statute (Vocational Education, 1963). Thus, it is evident that federal funding has been the key to the development of vocational education in Michigan.

The stated goals of vocational education in Michigan are the development of human resources through the concept of meeting the needs of the individual, and providing skilled manpower congruent with the needs of our highly industrialized state (Michigan State Plan, 1972). Previously, in July of 1967, the position taken by the Michigan State Board of Education in regard to vocational education was vocational programs would not be generally offered until the later senior high school years, grades 11 and 12, and each K-12 school district should consider offering all programs for which it had sufficient resources and interested students. However, the Michigan State Board of Education reversed that position in 1972 and stated that secondary area vocational
centers should serve to expand the vocational training opportunities of participating K-12 districts. The programs which could not be provided by individual districts because of lack of sufficient student demand or financial resources might be successfully provided in the jointly supported area vocational center. Students enrolled in the center would normally spend one-half time there and the remainder of their time at their district high school; however, their identity should remain with the district high school (Michigan State Plan, 1972).

On June 12, 1967, the voters in Calhoun County passed a one mill tax levy for operational expenses of the Calhoun Area Vocational Center. On June 10, 1968, the voters again gave their approval for an additional 1/2 mill for construction of the vocational center. The Calhoun Area Vocational Center commenced operation in 1970. The facility contained 140,000 square feet and could accommodate from 1,200 to 1,400 students daily. The center is owned and operated by the Calhoun County Intermediate School District (J. Egan, personal communication, September 15, 1972).

On July 17, 1972, the voters in Kalamazoo County turned down a millage request to construct and operate a county vocational center (Stommen, 1972). The vocational education of students in Kalamazoo County remained the responsibility of the local K-12 school districts. The decision meant that the number of vocational offerings would be determined by the number of students who desired vocational training in a specific skill area, and the ability of the school district to finance the desired vocational programs.
Thus, two southwestern Michigan counties, Calhoun and Kalamazoo, developed different approaches to vocational education for 11th and 12th grade students during the 1972-73 school year. Calhoun County's 11th and 12th grade students who were receiving vocational training attended the Calhoun Area Vocational Center where they had the opportunity to choose one of 30 vocational program offerings. The students pursued their vocational programs three hours per day at the Center, and during the other half of the day were enrolled in their required academic and elective courses at their district high schools.

Kalamazoo County students who were participating in vocational programs received their vocational training at their district's comprehensive high school along with their academic and elective courses. The majority of the vocational classes were offered in two-hour blocks, but a few of the programs were offered in three-hour blocks. The schools in the sample from Kalamazoo County offered from 2 to 16 vocational programs; a number of the programs were duplicated in the four schools.

Purpose of the Study

The purpose of the study was to determine if there were differences between three groups of 12th grade students who had expressed similar vocational interests, but were receiving different kinds of vocational training. The students had indicated to their counselors that they were non-college bound prior to the beginning of the 12th grade, and that they had an interest in acquiring skills that would prepare them for employment upon the completion of high school. Some of the
students had indicated to their counselors that they might attend a community college, upon completion of high school, but none of the students included in the study indicated an interest in attending college to pursue a baccalaureate degree. Group I consisted of 80 students from Calhoun County who received vocational training at the Calhoun Area Vocational Center (CAVC). Group II consisted of 80 students who received vocational training at their district comprehensive high schools in Kalamazoo County (CVT). Group III consisted of 80 students from Kalamazoo County who had indicated that they desired vocational training, but were not receiving it at their district comprehensive high schools (NVT).

Three basic questions have not been answered in past research, specifically:

1. What were the differences in attitudes toward school, and concepts related to school and work, of non-college bound students who received vocational training at an area vocational center as compared with non-college bound students who attended comprehensive high schools where they received vocational training or no vocational training?

2. What were the differences in occupational aspirations of non-college bound students who received vocational training at an area vocational center as compared with non-college bound students who attended comprehensive high schools where they received vocational training or no vocational training?

3. What were the differences in grades, attendance, and disciplinary referrals of non-college bound students who received vocational
training at an area vocational center as compared with non-college
bound students who attended comprehensive high schools where they
received vocational training or no vocational training?

It was hypothesized that the increased opportunities afforded by
the Calhoun Area Vocational Center and the perceived relevance the
programs offered the students who attended the Center would bring
about measurable differences in the following selected areas: attitudes
toward school, occupational aspirations, grades, attendance, and number
of disciplinary referrals, as compared with students who received
vocational training or no vocational training at their district
comprehensive high schools.

It was further anticipated that the students who received vocational
training at their district comprehensive high schools would record
measurable differences in the above selected areas as compared with
students who received no vocational training at their district com­
prehensive high schools.

Definition of Terms

The following definitions were used throughout the study.

Academic Courses

The basic courses required for graduation from high school; i.e.,
English and government.

Area Vocational Center

A school specifically designed and constructed to provide for the
training of students in a variety of vocational programs. The train­
ing is normally provided for students in the 11th and 12th grades.
Academic courses are not taught at the center.

**Attitude**

"The intensity of positive or negative affect for or against a psychological object. A psychological object is any symbol, person, phrase, slogan, or idea toward which people can differ as regards positive or negative affect." (Thurstone, 1946, p. 39).

**Comprehensive High School**

A high school where there are a significant number of academic and vocational courses offered to the students (Conant, 1959).

**Disciplinary Referral**

A record kept by school administrators on the number of times a student was sent to an administrator because of some problem that the teacher thought was too serious to be handled in the classroom; i.e., fighting, swearing, etc.

**Non-College Bound Students**

Students who indicated by the 12th grade that they did not plan to attend colleges or universities to pursue baccalaureate degrees.

**Occupational Aspirations**

The kinds of jobs that students think they can obtain when they complete their schooling, and would like to obtain when they have completed their education (Haller and Miller, 1963).

**Summary**

The intent of the first chapter was to introduce the study and discuss several important aspects. The rationale, purpose, and basic
assumptions upon which the study was based were discussed, and pertinent terms were defined.

Selected literature and research are presented in Chapter Two. The emphasis is placed on literature and research that has been conducted to examine variables relating to non-college bound high school students and graduates.

In Chapter Three, the research procedures are presented. The general design of the study is discussed, and the sample population is defined. The method of data collection and data analysis is presented.

The results and analysis of the research findings are discussed in Chapter Four. The major hypotheses are tested, and the results obtained are presented.

The summary, discussion, and recommendations for further study are presented in Chapter Five.
CHAPTER II

REVIEW OF SELECTIVE RELATED LITERATURE

The review of the selected literature is presented in five sections: (1) Introduction, (2) Related Literature, (3) In School Surveys and Studies, (4) Follow-up Studies, and (5) Summary.

Introduction

Vocational Education, the teaching of specific occupational skills, has been accomplished in a number of school settings. Among the most common school settings are the area vocational center, comprehensive high school, and vocational high school. The three terms are defined below:

Area Vocational Center

A school specifically designed and constructed to provide for the training of students in a variety of vocational programs. Training is usually offered to 11th and 12th grade students, and the courses are normally offered in three-hour blocks during the school year. Students who attend the Area Vocational Center take their academic courses at their home high schools, and when they graduate they receive their diplomas from their home high schools. The Area Vocational Center is an extension of each participating high school and is not established to replace it.
**Comprehensive High School**

The Comprehensive High School is a school where students receive both their academic and vocational training in the same building complex. Usually only students from the local school district are in attendance. The vocational training at the Comprehensive High School is usually offered to 11th and 12th grade students in two- to three-hour blocks.

**Vocational High School**

The Vocational High School is a separate high school where all students in attendance are participating in vocational training. Both the academic and vocational courses are offered at the Vocational High School. They type of high school is usually found in a large urban area, or it may be a high school that is serving a number of local school districts. The students may either receive their diplomas from the Vocational High School or from their home high schools depending upon local policy.

The main difference between the Vocational High School and the Area Vocational Center is that students take both their academic and vocational training at the Vocational High School, but students take only their vocational training at the Area Vocational Center.

**Related Literature**

Levitan (1963) reported that two out of every three children and youth now in school would enter the labor force without any college education or vocational training. He further stated that many of these youngsters would be seriously hampered in finding and holding jobs by
the lack of any specific vocational preparation during their high school years.

Rhodes (1971) reported that where vocational education had become an integral part of the education system, nearly 80% of those who received vocational or technical training were able to find work in the job field for which they were trained. Rhodes further stated that more federal aid was necessary for vocational education. Ohio received only 6 or 7% of the state's total education budget from the federal government in 1970.

Conant (1959) indicated that one of the three main objectives of a comprehensive high school was to provide good elective programs for those students who wanted to acquire specific vocational skills to be used immediately upon graduation from high school. Conant did not favor the idea of separate educational facilities for those students who wanted to acquire specific job skills. He considered the number one problem in the development of the comprehensive high school as the elimination of small high schools. He contended that schools which graduated fewer than 100 students were too small to be comprehensive. A three year high school would have to enroll between 450 and 500 students in order to meet Conant's definition of size.

In Wisconsin it was reported that small schools found a need to join together to make it possible to offer needed programs in vocational education (Three Year Pilot, 1968).

Wenrich (1963) reported there were 520 accredited public high schools in Michigan in 1960-61. Of these, 289 had fewer than 500 students, 135 had from 500 to 999 students, and 96 had over 1,000 students.
Wenrich described the area vocational program as one in which training was provided which led to employment in specific occupations or advancement in a particular occupation. The area vocational program served youth and adults of more than a single community or local school district who had a need for and could profit from such training.

The concept of area vocational education was proposed in 1944 in Michigan, but it was not accepted at that time. In 1961 the concept of area vocational education was again proposed. The advantages of area vocational education concept were as follows: (1) a broad tax base to support the program, (2) more programs could be offered the students than would be possible by any single school district, and (3) there could be avoidance of duplication of expensive equipment and facilities.

The Michigan State Plan for Vocational Education (1972), is based on the philosophy that any person who could profit by the instruction should have an equal opportunity to enroll in the vocational education program of his choice regardless of where he lives.

Ferns (1971) reported that in Michigan during the 1969-70 school year, 443 of the 534 K-12 programs offered one or more reimbursed occupational program. Only 71 of the school districts offered a choice of five or more vocational programs. There were 13 designated secondary area career centers in operation during the 1970-71 school year, and during the 1972-73 school year an additional nine programs were to be opened. The state of Michigan has set a goal of 75 area career centers to be operational in the future.
Levitan (1963) indicated that data on the quantity, let alone quality, of vocational educational training programs were skimpy.

McQueen (1968) stated that school dropouts occur most often among boys in the 10th grade in the general academic curriculum. He reported that evidence indicated that they and others who finished high school, would have had more personal satisfaction from a vocational technical curriculum. Rhodes (1969) reported that where vocational education was an integral part of the educational system, the dropout rate was reduced substantially and high school graduates become much more employable. Levitan (1963) reported that more than one third of the youngsters who enter school would drop out before completing their high school education. He stated that many of these youth would have stayed in school to complete their secondary education if the schools had offered them an opportunity to learn a skill which they knew had a market.

As reported in this section, the need for vocational education seems to be quite well agreed upon, but the best delivery system is still in question by many educators.

In-School Surveys and Studies

Coe (1964) described the typical students in vocational education programs as follows:

(1) Spread of ability, based on I.Q., is less than that of the high school population as a whole. Vocational students formed a relatively homogeneous group.

(2) Certain ethnic groups predominate; others were missing almost entirely.
(3) They had strong drives for early independence and tended to marry young.

(4) Parents and relatives were working class people from skilled and semi-skilled occupations. Few of the parents were college graduates.

(5) Mobility was not great; graduates tended to seek jobs in the local area and stay there.

(6) They tended to be followers, not leaders. In the comprehensive high school, the vocational students seldom held positions of leadership in school activities.

(7) They had less interest in and participated less in extracurricular activities, including sports.

(8) They usually received their lowest grades in academic subjects.

Whitten (1962) conducted a study that reported 9th grade attendance was the best indicator of persistence and probability of a student's graduation, and also showed a marked relationship to success in vocational programs.

Modart and others (1970) reported a study made to determine educational and occupational aspirations and expectations of high school youth. The sample was 13,607 9th through 12th grade students who attended 63 high schools in Louisiana. It included 7,021 girls and 6,586 boys who were interviewed in a group setting. The findings suggested that high school students develop strong occupational interests early, with at least tentative decisions made prior to the 11th grade. However, occupational information provided in school had little influence on occupational choice. The students were most influenced by their parents and their peers. Boys reported that the counselor and coach had the most influence of the professional school personnel, and girls reported that the counselor and business education
teacher had the most influence of the professional school personnel.

A study conducted in Wisconsin (Three Year Pilot, 1968) revealed that 70% of high school students used assistance in planning their high school courses of study. The people reported to be most helpful were parents, counselors, and friends. In making vocational decisions for post high school, the students indicated they would seek help from parents and counselors. Students, in general, felt a need for more expanded vocational offerings at their high schools.

Dodson (1968) reported that the measurement of student attitudes, an intangible property, was always difficult, but any objective observer would perceive an attitude of detachment, or at least apathy, in those students who desired to participate in a program of vocational education and who found it not available to them or not on the same level of school acceptance as that of academic subjects. He further reported that the attitude of the school principal, his relationship with the community, and an ability to get help from all available sources were real aids to the successful development of vocational programs.

Sanders and Dennis (1971) reported that in the 40 area vocational centers in the Appalachian region they visited, most students viewed their new occupational programs as an opportunity to study in an area commensurate with their interests. There was an increase in enrollment and a decrease in dropout rates during the two years that the programs had been in operation.

Shoemaker and Frericks (1967) conducted a survey of students who were attending the Penta County Joint Vocational School in northwestern
Ohio. The school district was made up of 19 local school districts in five primarily rural Ohio counties. Over 900 students attended the school on a full-time basis. Students surveyed included 438 12th graders and 489 11th graders. The results of the survey were as follows:

1. 91.4% of the students believed they were successful at Penta County.
2. 93.4% believed they were learning useful information.
3. 79.9% found most of their subjects interesting.
4. 88.9% like school at Penta County.
5. 14% would rather be in attendance at their home high schools.
6. 75% of the students did not plan to pursue their education beyond high school.

Follow-up Studies

Betz, Engle, and Mallinson (1969) conducted a study to assess selected characteristics of non-college bound, vocationally oriented high school graduates. Two to three years after graduation, 19% of the individuals in the sample had made some attempt at a college education. Of those who entered college, 56% were dismissed or had dropped out. Another 23% of the sample had entered some form of vocational-technical training, and 27% of that group had been dismissed or had dropped out. A total of 29% of the sample reported their high school experience as being valuable, 54% had neutral reactions, and 17% had felt that their high school experience was not valuable.

Little and Whitfield (1970) conducted a follow-up of graduates of
Wisconsin schools of vocational, technical and adult education from the class of 1965. The employment experience was good, only 2.5% were unemployed, and jobs held were closely related to their vocational training. A total of 84.17% of the males and 91.86% of the females in the sample thought that their vocational training was related to their obtaining entry level positions. Two out of three graduates thought the most important part of their educational program was the skill training. Whinfield reported similar responses in another study in which vocational students, even those who did not graduate, expressed more satisfaction with their vocational program than did students in a general program.

Eninger (1968) reported a follow-up study of experiences of vocational curriculum graduates. He compared vocational and academic course graduates from the same school and graduating class in terms of post high school occupation and educational and related experiences. He also studied differences between graduates of comprehensive high schools and vocational high schools. The survey included 50 vocational high schools and 50 comprehensive high schools that offered three or more vocational programs. The sample included only male graduates because the researcher thought it more likely that males would be employed 10 years after graduation from high school. Eninger reported that graduates of the vocational high school who stayed in their field or study did consistently better than did graduates of comprehensive high schools in the following:

1. Time required to obtain initial job.
2. Job satisfaction on first job.
(3) Job satisfaction on present job.
(4) Job satisfaction on all jobs held.
(5) Present job hourly rate.
(6) Percentage hourly rate increase.
(7) Total accumulated earnings since graduation.
(8) Percentage of employable time spent fully employed.
(9) Employer stability defined as number of jobs held.

Only on first job starting wages was it reported that comprehensive high school graduates did better than their vocational counterparts.

Vocational graduates who entered and stayed in an occupational area outside of their field of study did about the same as the comprehensive high school graduates in the areas presented above.

While in school the vocational students were absent more than the comprehensive students. The comprehensive students had a slightly higher rate of suspension, and the number of parent contacts with the school of the comprehensive students was nearly double the parent contacts of the vocational students.

Hawkridge and others (1970) attempted a study designed to identify, select, analyze, and describe vocational education programs at the high school level that had been successful in increasing the total placement rate when compared with other courses of instruction (placement rate was defined as the combined placement of graduates in employment and further education). The researchers identified 445 programs that they thought would yield results for their study. Of the selected schools nearly one-half did not have comprehensive follow-up information on their graduates, one-third had follow-up data but could show
no measurable trends, and no comparison group of non-vocational graduates was available from any of the schools.

Summary

The review of related literature and research supported the need for vocational training at the secondary school level, but there were no studies that provided guidelines on the type of vocational training that was perceived to be the most favorable. The study by Eninger indicated that vocational high school graduates had more success on the criteria measured than comprehensive high school graduates. The purpose of the current study is to measure the effects of selected variables on 12th grade non-college bound students who participated in two types of vocational training to find out which type of vocational training was perceived by the students to be the most favorable--the comprehensive high school or the area vocational center.
CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

In Chapter Three the research design and methodology is reported under the following four headings: (1) The Sample, (2) Procedures, (3) Instrumentation, and (4) Data Analysis.

The Sample

The sample consisted of 240 non-college bound 12th grade students from eight high schools in Calhoun and Kalamazoo Counties in southwestern Michigan.

The 80 subjects selected from Calhoun County for the study were chosen at random from lists provided by the school counselors from four selected high schools. The lists contained the names of all 12th grade students who were receiving vocational training at the Calhoun Area Vocational Center (CAVC). All of the students had indicated to their counselors that they wanted to acquire job skills that would prepare them to enter the labor market upon completion of their schooling. These students had indicated that they were not planning to pursue a college or university course of study leading to a baccalaureate degree, although some of the students had indicated that they might enter a community college upon completion of high school. Twenty students were selected for the study from each participating high school.
The 160 subjects selected from Kalamazoo County for the study were chosen at random from lists that were provided by the school counselors from the four selected high schools. Each participating school submitted two separate lists. The first list contained the names of all the students who were obtaining vocational training at that high school (CVT), and the second list contained the names of all the students from that high school who wanted vocational training but were not receiving it (NVT). All students had indicated to their counselors that they wanted to acquire job skills which would prepare them to enter the labor market upon completion of their schooling. The students had indicated that they were not planning to pursue a college or university course of study leading to a baccalaureate degree, although some of the students did plan to enter a community college upon completion of high school.

The students selected for the study were placed in groups according to the type of vocational training they were receiving. Group I consisted of 80 students who were receiving vocational training at the Calhoun Area Vocational Center. The CAVC sample received three hours of vocational training each day, and during the remainder of the day they returned to their district high schools to take their academic and elective courses. Group II consisted of 80 students who were receiving vocational training at their districts' comprehensive high schools in Kalamazoo County. The CVT sample received both their vocational training and academic and elective courses at their districts' comprehensive high schools. The vocational training the majority of the sample received lasted two hours per day; however, for some students...
the programs lasted three hours per day. Group III consisted of 80 students who attended the same high schools in Kalamazoo County as the CVT sample, but received no vocational training. The NVT sample desired vocational training, but were not receiving it either because no program was available, or the programs they desired were filled.

The schools selected in Calhoun County were Battle Creek Central, Lakeview, Pennfield, and Springfield. The schools selected in Kalamazoo County were Comstock, Galesburg-Augusta, Kalamazoo Central, and Portage Central. Schools selected from each county were matched with respect to size, type of community (rural-urban) and geographic location. Battle Creek Central and Kalamazoo Central represented schools that served an urban population. Lakeview and Portage Central represented suburban schools, Pennfield and Comstock represented larger urban fringe schools, and Springfield and Galesburg-Augusta represented smaller urban fringe schools.

Procedures

In August 1972, telephone contacts were initiated with the principals of the eight schools which had been selected for the study. The principal was informed about the nature of the study, and a personal interview was scheduled to more fully discuss the study. Each principal was personally interviewed, given a copy of the research proposal, and oriented to the purpose and methodology of the project. Six of the eight principals gave their approval to be a part of the study at the end of the interview, and the other two approved the study after reviewing it with other school officials.
Each principal appointed a contact person in the schools who would work directly with project personnel. In six of the eight schools the contact person was a counselor, and in the other two schools the contact persons were the Director of Vocational Education and the Director of Student Services. Appointments were made with the contact persons in each of the schools about the study. After determining that each contact person understood the study, and knew which students met the requirements for the study, lists of potential students were requested.

During the month of October, 1972, the contact person from each of the participating schools submitted lists of names of all students who qualified for the study. The lists from the four participating schools from Calhoun County contained the names of all 12th grade students who were receiving vocational training at the Calhoun Area Vocational Center. The lists from the four participating schools from Kalamazoo County were divided into two groups; the first list contained the names of all 12th grade students who were receiving vocational training, and the second list contained the names of all 12th grade students who wanted vocational training but were not receiving it.

The individual lists were randomly ordered and 20 students were selected from each list supplied by the schools using the table of random numbers presented by Edwards (1969). The names of those students selected were returned to the participating schools so that on-going data could be collected.

In January, 1973, prior to the completion of the first semester, dates were cooperatively arranged when the students in the sample
could be released from class to respond to the instruments. The total testing time requested was one hour. It was requested that the testing date be within two weeks of the end of the first semester, and all testing was accomplished during that period of time (February 1, 1973 to February 15, 1973).

The measuring instruments were administered to the students at their home high schools by the researcher or a counselor, not associated with that school, who had been trained to administer the instruments. The contact person from the school introduced the test administrator to the students, and then left the room. Students were informed that a study of high school students who were interested in going to work when they completed their high school training was in progress. The students were asked to respond to the two instruments as honestly and openly as possible and were assured that their individual responses would be kept confidential. There were no students who refused to respond to the instruments, and 198 students completed the two instruments. The remaining 42 students who were not tested were either absent on the day of testing, could not be released from class, or had dropped out of school. No attempt was made to give special tests to these students at a later date.

Data were obtained from school records on the students' grades and attendance, and the students' disciplinary referrals were obtained from the contact person at each school.

**Instrumentation**

Attitudes toward school, and concepts related to school and work,
were defined as scores received on the **Semantic Differential**. The SD was developed by Osgood, Suci, and Tannenbaum (1957) as a research tool for the measurement of meaning. Each concept to be differentiated is rated on a series of 7-point scales composed of polar opposite adjectives. Osgood and his associates (1957) report reliability test-retest coefficients ranging from .87 to .93 with a mean $r$ of .91. Validity measures were obtained by comparing a SD with the Thurstone and Guttman scales, which yield correlations of .90 and .78 respectively. Answer sheets were hand scored and calculated following standardized procedures outlined in the text.

Occupational Aspiration was defined as scores received on the **Occupational Aspiration Scale (OAS)**. The OAS was developed by Haller and Miller (1963) to measure the general level of occupational aspiration. The OAS is an eight-item multiple-choice instrument, and results yield both realistic aspiration (short range, or end of schooling) and idealistic aspiration (long range, or at the age of 30) and a combined total score. The split-half reliability is .80, and the test-retest reliability is .77. The concurrent validity coefficient is .62. Answer sheets were hand scored and calculated following standardized procedures outlined in the handbook.

**Data Analysis**

In testing hypotheses it must be decided what shall be called a small probability. Frequently research workers chose a value that is equal to or less than 0.05 (Edwards, 1969). The probability chosen to be used in rejecting null hypotheses was the 0.05 level of significance.
A series of t-tests (Edwards, 1969) was applied to compare the means of the groups on attitudes toward school, and concepts related to school and work, occupational aspiration, and grade-point average.

Chi square (Edwards, 1969) was applied to compare the number of days absent, and the number of disciplinary referrals from each group.

For each model, p levels were reported.
CHAPTER IV

RESULTS AND ANALYSIS OF RESEARCH FINDINGS

Introduction

In Chapter Four, the results and analysis of the research findings are discussed. The findings are discussed in five subsections; each pair of research hypotheses and results of the analysis are presented in the subsections.

The Problem

The study was designed to discover if there were differences between three groups of 12th grade non-college bound students. Two of the groups were receiving vocational training, one at the Calhoun Area Vocational Center and the other at their district comprehensive high schools in Kalamazoo County. The third group was not receiving vocational training. The following questions were germane to the study:

Were there differences in the attitudes toward school and concepts related to school and work, among students desiring vocational training who receive vocational education in comprehensive high schools, special vocational schools or none at all?

Were there differences in the occupational aspirations among students desiring vocational training who receive vocational education in comprehensive high schools, special vocational schools, or none at all?
Were there differences in the first semester grade-point averages among students desiring vocational training who receive vocational education in comprehensive high schools, special vocational schools, or none at all?

Were there differences in the number of days absent from school of students desiring vocational training, who receive vocational education in comprehensive high schools, special vocational schools, or none at all?

Were there differences in the number of disciplinary referrals of students desiring vocational training who receive vocational education in comprehensive high schools, special vocational schools, or none at all?

Research Findings

The CAVC sample consisted of 80 12th grade non-college bound students from Calhoun County who were receiving vocational training at the Calhoun Area Vocational Center. The CVT sample consisted of 80 12th grade non-college bound students from Kalamazoo County who were receiving vocational training at the district comprehensive high schools. The NVT sample consisted of 80 12th grade non-college bound students from Kalamazoo County who were receiving no vocational training at their district comprehensive high schools either because there were no programs that they desired to take or the existing programs were full.

The research findings are presented in the following manner: (1) the question relating to the hypotheses is asked, (2) the pair of
hypotheses are stated, and (3) the findings are discussed.

Question 1

Were there differences in the attitudes toward school, and concepts related to school and work, of non-college bound 12th grade students who received vocational training at an area vocational center as compared with non-college bound 12th grade students who received vocational training or who received no vocational training at their district comprehensive high schools? The following two hypotheses tested this question:

H₁ Non-college bound 12th grade students who attended the Calhoun Area Vocational Center have significantly more positive attitudes toward school, and concepts related to school and work, than non-college bound 12th grade students who attended their district comprehensive high school and received vocational training or who received no vocational training.

H₂ Non-college bound 12th grade students who attended their district comprehensive high school and received vocational training have significantly more positive attitudes toward school, and concepts related to school and work, than non-college bound 12th grade students who attended the same high schools and received no vocational training.

To measure attitudes toward school and concepts related to school and work a SD was administered to the students. Each concept to be differentiated was rated on a 7-point scale composed of polar opposite adjectives. The concepts presented to the students in the sample were: School, Counselor, Learning, Discipline, Studying, Principal, Working, Employer, Teacher, and Me. Each concept was rated, and the results of the data are presented in Tables 1, 2, and 3, or below.

The t test was used to compare the group means of the three groups of students in the study in their attitudes toward school, and concepts.
related to school and work.

In Table 1, the attitudes toward school, and concepts related to school and work, of the CAVC and CVT sample are compared.

TABLE 1

Attitudes Toward School and Concepts Related to School and Work of CAVC and CVT Samples

<table>
<thead>
<tr>
<th>Concepts</th>
<th>CAVC Mean (N=60)</th>
<th>CVT Mean (N=72)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School</td>
<td>44.03</td>
<td>38.71</td>
<td>-3.876</td>
<td>.000**</td>
</tr>
<tr>
<td>2. Counselor</td>
<td>45.13</td>
<td>41.94</td>
<td>-1.946</td>
<td>.027*</td>
</tr>
<tr>
<td>3. Learning</td>
<td>45.37</td>
<td>41.88</td>
<td>-2.431</td>
<td>.008**</td>
</tr>
<tr>
<td>4. Discipline</td>
<td>37.73</td>
<td>33.67</td>
<td>-2.325</td>
<td>.011**</td>
</tr>
<tr>
<td>5. Studying</td>
<td>39.53</td>
<td>38.54</td>
<td>-.574</td>
<td>.284</td>
</tr>
<tr>
<td>6. Principal</td>
<td>40.47</td>
<td>36.99</td>
<td>-1.503</td>
<td>.068</td>
</tr>
<tr>
<td>7. Working</td>
<td>46.48</td>
<td>47.08</td>
<td>.387</td>
<td>.350 (Neg)</td>
</tr>
<tr>
<td>8. Employer</td>
<td>46.70</td>
<td>43.47</td>
<td>-2.012</td>
<td>.023*</td>
</tr>
<tr>
<td>9. Teacher</td>
<td>41.35</td>
<td>39.78</td>
<td>-.924</td>
<td>.179</td>
</tr>
<tr>
<td>10. Me</td>
<td>45.02</td>
<td>43.35</td>
<td>-1.249</td>
<td>.107</td>
</tr>
</tbody>
</table>

**Significant at the .01 level for a one-tail test.
* Significant at the .05 level for a one-tail test.

As evidenced in Table 1, significant differences in attitudes toward school, and concepts related to school and work, were discovered between the CAVC and CVT samples in five of the ten concepts measured: School, Counselor, Learning, Discipline and Employer. Although not significant, the CAVC sample had higher group means for the concepts
Studying, Principal, Teacher, and Me, than the CVT sample. The concept Working was the only concept measured where the group mean of the CVT sample was higher than the CAVC sample. In five of the ten concepts measured, the results supported Hypotheses 1 because they exceeded the agreed upon level of confidence.

In Table 2 attitudes toward school, and concepts related to school and work, of the CAVC and NVT samples are compared.

<table>
<thead>
<tr>
<th>Concepts</th>
<th>CAVC Mean (N=60)</th>
<th>NVT Mean (N=66)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School</td>
<td>44.03</td>
<td>34.82</td>
<td>-5.991</td>
<td>.000**</td>
</tr>
<tr>
<td>2. Counselor</td>
<td>45.13</td>
<td>43.29</td>
<td>-1.157</td>
<td>.125</td>
</tr>
<tr>
<td>3. Learning</td>
<td>45.37</td>
<td>39.37</td>
<td>-3.391</td>
<td>.000**</td>
</tr>
<tr>
<td>4. Discipline</td>
<td>37.73</td>
<td>31.53</td>
<td>-3.216</td>
<td>.001**</td>
</tr>
<tr>
<td>5. Studying</td>
<td>39.53</td>
<td>35.52</td>
<td>-2.151</td>
<td>.017*</td>
</tr>
<tr>
<td>6. Principal</td>
<td>40.47</td>
<td>32.33</td>
<td>-3.341</td>
<td>.001**</td>
</tr>
<tr>
<td>7. Working</td>
<td>46.48</td>
<td>45.02</td>
<td>-.931</td>
<td>.177</td>
</tr>
<tr>
<td>8. Employer</td>
<td>46.70</td>
<td>43.29</td>
<td>-1.985</td>
<td>.025*</td>
</tr>
<tr>
<td>9. Teacher</td>
<td>41.35</td>
<td>36.29</td>
<td>-2.684</td>
<td>.004**</td>
</tr>
<tr>
<td>10. Me</td>
<td>45.02</td>
<td>40.97</td>
<td>-2.707</td>
<td>.004**</td>
</tr>
</tbody>
</table>

**Significant at the .01 level for a one-tail test.
* Significant at the .05 level for a one-tail test.
As evidenced in Table 2, significant differences in attitudes toward school, and concepts related to school and work, were discovered between the CAVC and NVT samples in eight of the ten concepts measured: School, Learning, Discipline, Studying, Principal, Employer, Teacher and Me. Although not significant, the CAVC sample had higher group means in the other two concepts, Counselor and Working, than the NVT sample. In eight of the ten concepts measured, the results supported Hypothesis 1 because they exceeded the agreed upon level of confidence.

In Table 3 the attitudes toward school, and concepts related to school and work, of the CVT and NVT samples are compared.

TABLE 3
Attitudes Toward School and Concepts Related to School and Work of CVT and NVT Samples

<table>
<thead>
<tr>
<th>Concepts</th>
<th>CVT Mean (N=72)</th>
<th>NVT Mean (N=66)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School</td>
<td>38.71</td>
<td>34.82</td>
<td>-2.778</td>
<td>.003**</td>
</tr>
<tr>
<td>2. Counselor</td>
<td>41.94</td>
<td>43.29</td>
<td>.795</td>
<td>.214 (Neg)</td>
</tr>
<tr>
<td>3. Learning</td>
<td>41.88</td>
<td>39.37</td>
<td>-1.659</td>
<td>.050*</td>
</tr>
<tr>
<td>4. Discipline</td>
<td>33.67</td>
<td>31.53</td>
<td>-1.140</td>
<td>.128</td>
</tr>
<tr>
<td>5. Studying</td>
<td>38.54</td>
<td>35.52</td>
<td>-1.890</td>
<td>.030*</td>
</tr>
<tr>
<td>6. Principal</td>
<td>36.99</td>
<td>32.33</td>
<td>-2.080</td>
<td>.020*</td>
</tr>
<tr>
<td>7. Working</td>
<td>47.08</td>
<td>45.02</td>
<td>-1.387</td>
<td>.084</td>
</tr>
<tr>
<td>8. Employer</td>
<td>43.47</td>
<td>43.29</td>
<td>-.115</td>
<td>.454</td>
</tr>
<tr>
<td>9. Teacher</td>
<td>39.78</td>
<td>36.29</td>
<td>-2.075</td>
<td>.020*</td>
</tr>
<tr>
<td>10. Me</td>
<td>43.35</td>
<td>40.97</td>
<td>-1.861</td>
<td>.033*</td>
</tr>
</tbody>
</table>

**Significant at the .01 level for a one-tail test.
* Significant at the .05 level for a one-tail test.

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As evidenced in Table 3, significant differences in attitudes toward school, and concepts related to school and work, were discovered between the CVT and NVT samples in six of the ten concepts measured: School, Learning, Studying, Principal, Teacher and Me. Although not significant, the CVT sample had higher group means than the NVT sample in all concepts with the exception of the concept Counselor. In six of the ten concepts measured, the results supported Hypothesis 2 because they exceeded the agreed upon level of confidence.

**Question 2**

Were there differences in the occupational aspirations of non-college bound 12th grade students who received vocational training at an area vocational center as compared with non-college bound 12th grade students who received vocational training or who received no vocational training at their district comprehensive high schools? The following two hypotheses tested this question:

- $H_3$: Non-college bound 12th grade students who attended the Calhoun Area Vocational Center have significantly higher occupational aspirations than non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training or who received no vocational training.

- $H_4$: Non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training have significantly higher occupational aspirations than non-college bound 12th grade students who attended the same high schools and received no vocational training.

The **Occupational Aspiration Scale** was administered to the students in the sample to measure their occupational aspirations. The OAS is an eight-item multiple-choice instrument designed to measure both realistic aspiration (short range, or at the end of schooling) and
idealistic aspiration (long range, or at the age of 30) and a combined total score. Occupations presented on the OAS were classified by prestige level, and are scored from 0 (lowest level) to 9 (highest level).

In Table 4 the occupational aspirations (realistic, idealistic, and total) of the CAVC and CVT samples were compared.

**TABLE 4**

Occupational Aspirations of CAVC and CVT Samples

<table>
<thead>
<tr>
<th>Test</th>
<th>CAVC Mean (N=60)</th>
<th>CVC Mean (N=72)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic Aspiration</td>
<td>17.10</td>
<td>15.99</td>
<td>-1.105</td>
<td>.135</td>
</tr>
<tr>
<td>Idealistic Aspiration</td>
<td>21.12</td>
<td>18.78</td>
<td>-2.347</td>
<td>.010**</td>
</tr>
<tr>
<td>Total Score</td>
<td>38.22</td>
<td>34.77</td>
<td>-1.986</td>
<td>.025*</td>
</tr>
</tbody>
</table>

**Significant at the .01 level for a one-tail test.**
*Significant at the .05 level for a one-tail test.

As evidenced in Table 4, significant differences in occupational aspirations were discovered between the CAVC and CVT samples in idealistic aspiration and total score. Realistic aspirations did not differ significantly between the two groups of students. The results obtained in Table 4 supported Hypothesis 3 in two of the three tests because they exceeded the agreed upon level of confidence.

In Table 5 the occupational aspirations (realistic, idealistic and total) of the CAVC and NVT samples are compared.
As evidenced in Table 5, there were no significant differences in level of occupational aspiration between the CAVC and NVT samples. Although not significant, the CAVC sample had higher group means than the NVT sample. The results obtained in Table 5 supported the null hypothesis, and thus, none of the tests exceeded the agreed upon level of confidence.

In Table 6 occupational aspirations (realistic, idealistic, and total) of the CVT and NVT samples are compared.

### TABLE 5

Occupational Aspirations of CAVC and NVT Samples

<table>
<thead>
<tr>
<th>Test</th>
<th>CAVC Mean (N=60)</th>
<th>NVT Mean (N=66)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic Aspiration</td>
<td>17.10</td>
<td>15.47</td>
<td>-1.425</td>
<td>.078</td>
</tr>
<tr>
<td>Idealistic Aspiration</td>
<td>21.12</td>
<td>20.11</td>
<td>-.961</td>
<td>.169</td>
</tr>
<tr>
<td>Total Score</td>
<td>38.22</td>
<td>35.58</td>
<td>-1.487</td>
<td>.070</td>
</tr>
</tbody>
</table>

### TABLE 6

Occupational Aspirations of CVT and NVT Samples

<table>
<thead>
<tr>
<th>Test</th>
<th>CVT Mean (N=72)</th>
<th>NVT Mean (N=66)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic Aspiration</td>
<td>15.99</td>
<td>15.47</td>
<td>-.469</td>
<td>.320</td>
</tr>
<tr>
<td>Idealistic Aspiration</td>
<td>18.78</td>
<td>20.11</td>
<td>1.430</td>
<td>.077 (Neg)</td>
</tr>
<tr>
<td>Total Score</td>
<td>34.77</td>
<td>35.58</td>
<td>.381</td>
<td>.352 (Neg)</td>
</tr>
</tbody>
</table>
As evidenced in Table 6, there were no significant differences in level of occupational aspiration between the CVT and NVT samples. Although not significant, the NVT sample had higher group means on two of the three sub-tests (idealistic aspiration and total score).

The results obtained in Table 6 supported the null hypothesis, and thus, none of the tests exceeded the agreed upon level of confidence.

Question 3

Were there differences in the grade point averages of non-college bound 12th grade students who received vocational training at an area vocational center as compared with non-college bound 12th grade students who received vocational training or who received no vocational training at their district comprehensive high school? The following two hypotheses tested this question:

\( H_5 \) Non-college bound 12th grade students who attended the Calhoun Area Vocational Center have significantly higher grade point averages than non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training or who received no vocational training.

\( H_6 \) Non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training have significantly higher grade point averages than non-college bound 12th grade students who attended the same high schools and received no vocational training.

At the end of the first semester the grades that the students in the sample had received were recorded in the school records, and collected by the researcher. Each student's grade point average (GPA) was computed, and the GPA for each group was calculated following standard procedures.

A \( t \) test was used to compare the GPA of the three groups of students in the sample.
In Table 7 the GPA of the CAVC and CVT samples are compared.

TABLE 7
Grade Point Averages of CAVC and CVT Samples

<table>
<thead>
<tr>
<th></th>
<th>CAVC Mean Grade Point</th>
<th>CVT Mean Grade Point</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (N=76)</td>
<td>2.696</td>
<td>2.566</td>
<td>-1.010</td>
<td>.157</td>
</tr>
</tbody>
</table>

As evidenced in Table 7, there was no significant difference between the CAVC and CVT sample on GPA. Although not significant, the CAVC sample had a slightly higher group mean than the CVT sample. The results of Table 7 supported the null hypothesis, and thus, did not exceed the agreed upon level of confidence.

In Table 8 the GPA of the CAVC and NVT samples are compared.

TABLE 8
Grade Point Averages of CAVC and NVT Samples

<table>
<thead>
<tr>
<th></th>
<th>CAVC Mean Grade Point</th>
<th>NVT Mean Grade Point</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (N=76)</td>
<td>2.696</td>
<td>1.931</td>
<td>-5.563</td>
<td>.000**</td>
</tr>
</tbody>
</table>

**Significant at the .01 level on a one-tail test.
As evidenced in Table 8, the mean GPA of the CAVC sample was significantly higher than the NVT sample. The results obtained in Table 8 supported Hypothesis 5 because they exceeded the agreed upon level of confidence.

In Table 9 the GPA of the CVT and NVT samples are compared.

TABLE 9
Grade Point Averages of CVT and NVT Samples

<table>
<thead>
<tr>
<th>CVT Mean Grade Point Average (N=77)</th>
<th>NVT Mean Grade Point Average (N=75)</th>
<th>t value</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.566</td>
<td>1.931</td>
<td>-4.772</td>
<td>.000**</td>
</tr>
</tbody>
</table>

**Significant at the .01 level for a one-tail test.

As evidenced in Table 9, the mean GPA of the CVT sample was significantly higher than the NVT sample. The results obtained in Table 9 supported Hypothesis 6 because they exceeded the agreed upon level of confidence.

Question 4

Were there differences in the number of absences of non-college bound 12th grade students who attended an area vocational center as compared with non-college bound 12th grade students who received vocational training or who received no vocational training at their district comprehensive high schools? The following two hypotheses tested this question:

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Non-college bound 12th grade students who attended the Calhoun Area Vocational Center have fewer absences than non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training or who received no vocational training.

Non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training have fewer absences than non-college bound 12th grade students who attended the same high schools and received no vocational training.

At the end of the first semester the number of absences for each student in the sample was obtained from the school attendance records, and the combined number of days absent was calculated for each group.

Chi square was computed for the three groups of students who made up the sample.

In Table 10 the number of absences for the CAVC and CVT samples are compared.

<table>
<thead>
<tr>
<th>CAVC Total Absences</th>
<th>CVT Total Absences</th>
<th>Total Absences</th>
<th>Chi Square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>675</td>
<td>683</td>
<td>1358</td>
<td>0.047</td>
<td>.414</td>
</tr>
</tbody>
</table>

As evidenced in Table 10, there was no significant difference between the CAVC sample and the CVT sample. This supported the null hypothesis, and thus, did not exceed the agreed upon level of confidence.

In Table 11 the number of absences of the CAVC and NVT samples are compared.
As evidenced in Table 11, there were significant differences in the number of absences between the CAVC and NVT samples. The results presented in Table 11 supported Hypothesis 7 because they exceeded the agreed upon level of confidence.

In Table 12 the number of absences of the CVT and NVT samples are compared.

**Significant at the .01 level.

As evidenced in Table 12, there were significant differences in the number of absences between the CVT and NVT samples. The results presented in Table 12 supported Hypothesis 8 because they exceeded the agreed upon level of confidence.
Question 5

Were there differences in the number of disciplinary referrals to the designated school administrator of non-college bound 12th grade students who attended an area vocational center as compared with non-college bound 12th grade students who attended comprehensive high schools where they received vocational training or no vocational training? The following two hypotheses tested this question:

\(H_9\) Non-college bound 12th grade students who attended the Calhoun Area Vocational Center have fewer disciplinary referrals than non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training or who received no vocational training.

\(H_{10}\) Non-college bound 12th grade students who attended their district comprehensive high schools and received vocational training have fewer disciplinary referrals than non-college bound 12th grade students who attended the same high schools and received no vocational training.

At the end of the first semester the number of disciplinary referrals recorded for each student in the sample was computed by the designated school administrator. The researcher totaled the number of referrals for each group of students, and Chi square was applied to the three groups of students who made up the sample.

In Table 13 the number of disciplinary referrals of the CAVC and CVT samples are compared.
Table 13

Number of Disciplinary Referrals of CAVC and CVT Samples

<table>
<thead>
<tr>
<th>CAVC Disciplinary Referrals</th>
<th>CVT Disciplinary Referrals</th>
<th>Total Disciplinary Referrals</th>
<th>Chi Square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>54</td>
<td>75</td>
<td>14.520</td>
<td>.000**</td>
</tr>
</tbody>
</table>

**Significant at .01 level.

As evidenced in Table 13, there were significant differences in the number of disciplinary referrals between the CAVC and CVT samples. The results presented in Table 13 supported Hypothesis 9 because they exceeded the agreed upon level of confidence.

In Table 14 the number of disciplinary referrals of the CAVC and NVT samples are compared.

Table 14

Number of Disciplinary Referrals of CAVC and NVT Samples

<table>
<thead>
<tr>
<th>CAVC Disciplinary Referrals</th>
<th>NVT Disciplinary Referrals</th>
<th>Total Disciplinary Referrals</th>
<th>Chi Square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>72</td>
<td>93</td>
<td>27.968</td>
<td>.000**</td>
</tr>
</tbody>
</table>

**Significant at .01 level.

As evidenced in Table 14, there were significant differences in the number of disciplinary referrals between the CAVC and NVT samples.
The results presented in Table 14 supported Hypothesis 9 because they exceeded the agreed upon level of confidence.

In Table 15 the number of disciplinary referrals of the CVT and NVT samples are compared.

**TABLE 15**

Number of Disciplinary Referrals of CVT and NVT Samples

<table>
<thead>
<tr>
<th></th>
<th>CVT Disciplinary Referrals</th>
<th>NVT Disciplinary Referrals</th>
<th>Total Disciplinary Referrals</th>
<th>Chi Square</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54</td>
<td>72</td>
<td>126</td>
<td>2.571</td>
<td>.109</td>
</tr>
</tbody>
</table>

As evidenced in Table 15, there were no significant differences obtained between the CVT and NVT samples. The results presented in Table 15 supported the null hypothesis because they did not exceed the agreed upon level of confidence.

**Summary**

To test student attitudes toward school, and concepts related to school and work, *t* tests were computed on the group means for each concept rated by the students in the sample. The null hypothesis was rejected in 19 of 30 cases in favor of the research hypothesis because the results exceeded the agreed upon level of confidence.

To test occupational aspiration, *t* tests were computed on the group means obtained by the students in the sample on the OAS. The
null hypothesis was supported in 7 out of 9 computations because the results did not exceed the agreed upon level of confidence.

To test GPA, t tests were computed on the group means obtained by the students in the sample, and the null hypothesis was rejected 2 out of 3 times in favor of the research hypothesis because the results exceeded the agreed upon level of confidence.

Chi square was computed to test the number of absences and the number of disciplinary referrals, and in 4 of 6 tests the null hypothesis was rejected in favor of the research hypothesis because the results exceeded the agreed upon level of confidence.
CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

The purpose of the study was to determine if there were differences among three groups of non-college bound 12th grade students who had expressed similar interests in obtaining vocational training before leaving high school. Two groups of students received vocational training in different settings, the area vocational center and the comprehensive high school. The third group attended comprehensive high schools and desired but did not receive vocational training. Specifically, attitudes toward school, and concepts related to school and work, occupational aspiration, academic achievement, attendance and number of disciplinary referrals were measured, and the findings were compared for significant differences.

As was previously indicated in the summary of Chapter Two, a review of selected literature indicated support for the vocational training at the secondary school level; however, there was no general agreement on the most meaningful setting for the training. Despite a paucity of research evidence on the most meaningful setting for vocational training, one lead was provided by Eninger. He reported that graduates of vocational schools who remained in their field of prior vocational training did consistently better than did graduates of comprehensive high schools on 9 out of 10 criteria measured.

There is strong support for vocational training, but there have
been few data based research studies designed to evaluate the effects of vocational training. The present study was designed to evaluate one dimension of vocational training, namely the setting in which it occurs and the effect it has on the students.

Discussion

The results and analysis of the research findings were presented in Chapter Four. For the purposes of discussion in this chapter, the findings are grouped as followings: (1) Calhoun Area Vocational Center sample (CAVC) compared with comprehensive high school sample who received vocational training (CVT), (2) CVT sample compared with comprehensive high school sample who did not receive vocational training (NVT), and (3) CAVC sample compared with NVT sample.

The CAVC sample had significantly more positive attitudes toward school, and concepts related to school and work, on 5 of the 10 concepts measured by the SD (School, Counselor, Learning, Discipline, and Employer) than the CVT sample. The CAVC sample had significantly higher occupational aspirations on two of the three sub-tests on the OAS (Idealistic Aspiration and Total Score) than the CVT sample. The CAVC sample had significantly fewer disciplinary referrals than the CVT sample.

Thus, the CAVC students had significantly better attitudes toward school, higher occupational aspirations, and fewer disciplinary referrals than the students enrolled in vocational training in comprehensive high schools.
In addition, mean scores on four of the five attitudinal measures were higher (but not significantly different) for the CAVC students. Grade point average was also higher (but not significantly different) as was realistic occupational aspiration.

The CVT sample had significantly more positive attitudes toward school, and concepts related to school and work, on 6 of the 10 concepts measured by the SD (School, Learning, Studying, Principal, Teacher and Me) than the NVT sample. The CVT sample had a significantly higher grade point average and also significantly fewer days absent than the NVT sample.

Thus, the CVT students had significantly better attitudes toward school, higher grades, and fewer absences than the NVT sample.

In addition, mean scores on three of the four attitudinal measures were higher (but not significantly different) for the CVT students, as was realistic occupational aspiration. The CVT sample had fewer disciplinary referrals (but not significantly different) than the NVT sample.

The CAVC sample had significantly more positive attitudes toward school, and concepts related to school and work, on 8 of the 10 concepts measured by the SD (School, Learning, Discipline, Studying, Principal, Employer, Teacher, and Me) than the NVT sample. The CAVC sample had a significantly higher grade point average, significantly fewer absences, and significantly fewer disciplinary referrals than the NVT sample.

Thus, the CAVC students had significantly better attitudes toward school, higher grades, fewer absences, and fewer disciplinary referrals.
than the students enrolled in comprehensive high schools who received no vocational training.

In addition, mean scores on the remaining two attitudinal measures were higher (but not significantly different) for the CAVC sample, as was occupational aspiration.

If the choice is between an area vocational center and comprehensive high schools as the site for vocational training, within the limitations of the study, based on data examined, the area vocational center provides the most meaningful setting for the training. The conclusion was reached on the basis that: (1) perceptual set data from the sample rates the area vocational center higher, (2) standardized test data rates the area vocational center higher, and (3) behavioral data rates the area vocational center higher.

The following factors help to account for the differences discovered between the students who attended the area vocational center and the students who were enrolled in vocational training at comprehensive high schools: (1) there are a larger number of vocational courses available to the students attending the area vocational center, (2) there is a greater chance of obtaining vocational training that approximated the individual's occupational aspiration at the area vocational center, (3) the vocational training is offered during the regular school day at the area vocational center, not as an appendage to the academic programs, (4) there is a concerted effort by the area vocational center staff to meet the vocational needs of the population it serves, (5) the staffing of the area vocational center is more specialized to provide for the specific occupational directions of the
students, i.e., health careers, and (6) the climate at the area vocational center lends honor, substance, and prestige to vocational aspiration, whereas the comprehensive high schools, by and large, place highest prestige on the programs which prepare students for entrance to college.

Recommendations for Further Study

Two types of vocational training, the area vocational center and the comprehensive high school, in southwestern Michigan were examined in the present study. Further study in the area of vocational training could be conducted in other parts of the country where other forms of vocational education are practiced, i.e., Ohio, where vocational training is provided at joint vocational high schools.

Further study could also be conducted at different grade levels to determine the effects of vocational training on schools holding power in addition to the variables selected in the present study.
REFERENCES

Background Information Concerning Area Vocational Education Programs. Lansing, Michigan: Department of Public Instruction, 1963.


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APPENDIX A

Communication to Participating Schools

To Participating Schools:

PROBLEM STATEMENT

The purpose of the research is to determine if there are differences between three groups of 12th grade students who have expressed similar vocational interests. The students have indicated to their counselors that they do not plan to attend college to pursue a baccalaureate degree, but they would like to learn a skill before they graduate from high school that would prepared them for employment upon completion of their schooling. The students in Group I have elected to attend an area vocational center. These students reside in Calhoun County and will be attending the Calhoun Area Vocational Center (CAVC). The CAVC sample will be receiving a minimum of three hours of vocational training a day that is related to their expressed occupational interest. The students in Group II and Group III reside in Kalamazoo County and will be attending classes at their respective district high schools. The students in Group II will be receiving between two and three hours of vocational training a day that is related to their expressed occupational interest (CVT). The students in Group III will be receiving no vocational training because there are no vocational courses available that relate to their expressed occupational interests (NVT).

OBJECTIVES

The objectives of the study will be to determine what differences exist between students in two different types of vocational programs,
specifically:

1. To compare the attitudes toward school, and concepts related to school and work, of students attending an area vocational center with students attending their district comprehensive high schools where they are receiving vocational training or no vocational training.

2. To compare the occupational aspirations of students attending an area vocational center with students attending their district comprehensive high schools where they are receiving vocational training or no vocational training.

3. To compare the semester grade point averages of students attending an area vocational center with those of students attending their district comprehensive high schools where they are receiving vocational training or no vocational training.

4. To compare the attendance of students attending an area vocational center with students attending their district comprehensive high schools where they are receiving vocational training or no vocational training.

5. To compare the number of discipline referrals handled by the school administration of students attending an area vocational center with students attending their district comprehensive high schools where they are receiving vocational training or no vocational training.

PROCEDURE

Population and Sample

Twelfth grade students in the selected schools during the 1972-73 school year are to be the population for this study. From this population two hundred forty students will be randomly selected from the eight schools in Kalamazoo and Calhoun Counties. These students will have indicated to their counselors that they are interested in obtaining skills to prepare themselves for employment upon completion of
The students will also have indicated to their counselors that they do not plan to attend a four-year college to obtain a baccalaureate degree.

The 80 students, 20 from each of the four participating high schools, selected for this study from Calhoun County will be attending the Calhoun Area Vocational Center during the 1972-73 school year.

The 160 students selected from Kalamazoo County will be students with similar vocational interests, and they will be attending their districts' high school during the 1972-73 school year. Forty students will be selected from each of the four participating high schools, 20 that are receiving vocational training and 20 that are receiving no vocational training.

Copies of the study will be made available to the participating school districts.

Thank you for your cooperation.

Sincerely,

Harry Clay

HC/fjr
729 Montrose Street
Kalamazoo, Michigan 49008
Phone: (616) 344-3697
APPENDIX B

Instructions

Sample Semantic Differential

Name__________________________ Name of Your High School__________

YOU are asked to rate 10 CONCEPTS as YOU see them at this time. In
order to help you understand what it is that you should do on this
instrument a short sample form is provided below:

EDUCATION (concept)

Good  _____:___:___:___:___:___:___:___:___:___ Bad
Optimistic _____:___:___:___:___:___:___:___:___:___ Pessimistic
Incomplete  _____:___:___:___:___:___:___:___:___:___ Complete
Negative  _____:___:___:___:___:___:___:___:___:___ Positive

In the example above the Concept was the broad term EDUCATION
and you are asked to rate the term as you see it. The X in the blank
is the way I might have marked it if I were responding to this instru-
ment. The whole idea of this instrument is to give you a chance to
express how you feel about a number of Concepts that you are acquainted
with in your life.

Please mark one X on each line of the scale--don't omit any lines. Are
there any questions?

Turn to the next page and begin.
<table>
<thead>
<tr>
<th>Word</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>Optimistic</td>
<td></td>
</tr>
<tr>
<td>Incomplete</td>
<td></td>
</tr>
<tr>
<td>Pleasurable</td>
<td></td>
</tr>
<tr>
<td>Unsuccessful</td>
<td></td>
</tr>
<tr>
<td>Meaningless</td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
</tr>
</tbody>
</table>

**SCHOOL**

<table>
<thead>
<tr>
<th>Word</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td></td>
</tr>
<tr>
<td>Pesimistic</td>
<td></td>
</tr>
<tr>
<td>Complete</td>
<td></td>
</tr>
<tr>
<td>Painful</td>
<td></td>
</tr>
<tr>
<td>Successful</td>
<td></td>
</tr>
<tr>
<td>Meaningful</td>
<td></td>
</tr>
<tr>
<td>Unimportant</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td></td>
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</tbody>
</table>

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