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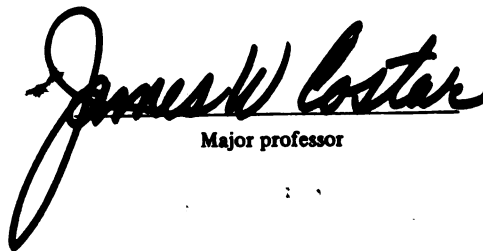
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A Study Of The Effects  
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On The Vocational Maturity of  
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D. Douglas Haig

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A STUDY OF THE EFFECTS  
OF A GROUP CAREER COUNSELING PROGRAM  
ON THE VOCATIONAL MATURITY OF  
SENIOR SECONDARY SCHOOL STUDENTS

By

D. Douglas Haig

A DISSERTATION

Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

College of Education

1980

## ABSTRACT

### A STUDY OF THE EFFECTS OF A GROUP CAREER COUNSELING PROGRAM ON THE VOCATIONAL MATURITY OF SENIOR SECONDARY SCHOOL STUDENTS

By

D. Douglas Haig

The purpose of this study was to determine whether the Korah Collegiate Group Career Counseling Program enhanced the vocational maturity of senior secondary school students. In addition to this, an attempt was made to determine the effectiveness of each phase of the program through the perceptions of the participants.

A randomly selected experimental sample of students (N=85) from the grade 12 class at Korah Collegiate was involved in a six week group career counseling program. The program consisted of self-awareness and environmental exploratory experiences. These experiences were followed by group discussions dealing directly with their effects on the career planning of the treatment group. A similarly selected control group (N=74)

from the same school was utilized. This control group was subdivided between users and non-users of Guidance services for statistical analysis purposes. Both groups were pre-tested and then post-tested after the treatment program.

A post-hoc comparison group of grade 12 students from a vocational high school was also used to help determine the generalizability of the program's results.

The instrument used in determining the outcome of the program was Super's Career Development Inventory (CDI) Form III. The investigator also devised three questionnaires to obtain self-reports on the various phases of the program by its participants.

The technique used for comparing the groups with one another was analysis of variance. This was done for comparisons on pre-post-test data as well as for mean gain (or difference) scores.

Frequency counts on the responses to the questionnaires were used to obtain data on the perceived success of the various phases of the program.

The results demonstrated that there was considerable support for the main question of the study. Vocational maturity, as measured by Super's Career Development Inventory Form III was enhanced by the Korah Collegiate Group Career Counseling Program.

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Total vocational maturity and the attitudinal factors of vocational maturity were enhanced significantly by the program.

The participants in the program indicated that the phases of the program they deemed as most helpful to their career planning were the sessions on psychometric test results, the personal interviews and the observation days.

In brief, this study suggests that the Korah Collegiate Group Career Counseling Program had a significant effect on the vocational maturity of its participants in terms of total vocational maturity and in terms of the attitudinal factors of vocational maturity. Cognitive factors of vocational maturity were not significantly affected by the program.

I would like to dedicate this  
work to my wife, Linda.



## ACKNOWLEDGMENTS

The type of study that was undertaken has meant that personal gratitude should be expressed to a host of people.

I am particularly grateful to the members of Guidance services at Korah Collegiate who worked so diligently during the program. Counselors, Pete Hatton, Larry Bobbie and Carmen Boniferro provided the skills which contributed immensely to the program. Their secretary, Linda Thomlinson, ably assisted with the program and with the many hours of typing of this manuscript.

My doctoral committee, including Dr. James Costar, Dr. Herbert Burks, Dr. Samuel Moore and Dr. James McKee provided positive guidance throughout the process. My committee chairman, Dr. James Costar deserves a special thank you for his patient support and guidance during the many months of work involved in the study.

I am most grateful to my wife, Linda, who provided the foundation of support needed throughout the study. She constantly provided the reminders for the children and myself

that "Daddy was studying." Finally, a special thank you to my children, David, Brent and Anne who were always considerate about all those study sessions.

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## APPENDIX

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## CHAPTER I

### Introduction and Background

The concept of vocational guidance was first formulated by Frank Parsons in 1909. The underlying theme of his theory was that to choose a vocation, people need accurate knowledge of themselves and the world of work. According to Parsons, vocational choice should be based on "true reasoning", a decision making process which combined self-understanding and understanding of the world of work.

Parsons' concept still influences much of the theoretical work on the subject of vocational development, although today's theories are more complex and controversial. Popular discussions about Donald Super's use of self-concept in vocational development theory versus the reflexive self-concept of George Herbert Mead is an example (Franklin, 1977).

The concept of vocational guidance and the theories of vocational development have had an influence on educational systems. This influence has changed over the years from times when the influence was considerable, to times when it was virtually ignored. Today, the influence is increasing

again. Specific criticisms of the educational system, like the viewpoint that not enough attention is given to vocational development in schools, have again appeared. Reforms are being sought to deal with some of the criticism. For example, in the 1970's Kenneth Hoyt and Sidney Marland, Jr. argued cogently for greater relevancy of school programs. These educational leaders are also strong proponents of career education as a means of attaining it. Career education is a reform movement in education which promotes greater relationships between what is learned in school and what exists in the world of work. This movement has helped renew interest in schools for what used to be called vocational guidance.

Public dissatisfaction with education now exists at all educational levels; and at the secondary school level, the public's dissatisfaction is often aimed at counselors and at guidance programs. Because counselors perform highly specialized functions in schools, their role is not always understood by the public. This leads to a greater vulnerability when reductions in programming and staffing are being considered.

A marked tendency over the past decade has been for counselors to focus primarily on personal and social counseling. The pressing problems of military service, the demand for more



individual freedom and the resulting conflict between generations explain some of the reasons for the stress on personal and social counseling.

The emphasis on personal and social counseling also led to a focus on crisis intervention instead of development. Finally, this trend led to more attention on individual as opposed to group approaches in counseling. That trend is now being re-examined in the light of new priorities within society.

One of the emerging high priorities in both Canadian and United States schools is that of career counseling. With uncertain economic conditions and an imbalance between the number of available jobs and those seeking employment, students are rightfully more concerned with career planning than in the past. Counselors must adapt to this, since:

In a sizable number of secondary schools the job emphasis of the counselor is being changed from heavy stress upon crisis intervention for a few students to greater emphasis upon systematic career development for everyone.  
(Costar, 1977)

Therefore, it will be necessary for counselors to provide improved career counseling programs for today's students.

### Historical Development of Vocational Development Theories

Vocational guidance services were gradually introduced

into secondary schools in the United States and Canada after 1909. By 1945 vocational guidance was the major emphasis of secondary school guidance services. During the years 1919-1945 vocational guidance was primarily influenced by Frank Parsons' theoretical formulations on the subject. However, dissatisfaction with the theoretical ideas associated with vocational guidance began to appear. Specifically, there was concern that the process was more complex than Parsons had maintained. Theoreticians like Anne Roe became interested in patterns of abilities and interests that would result in more satisfaction with certain occupations. Roe maintained that there were three major influences on the patterns of abilities and interests of each individual. One basic influence was that of genetics. Genetics helped determine the pattern by affecting the energy of the individual. The needs of the individual (based on Maslow's hierarchy of needs) also determined the interests and abilities of the person. Finally, Roe theorized that the channeling of psychic energies into a vast number of possible directions for a career was heavily influenced by early childhood experiences. This theoretical development was called the psychology of occupations (Osipow, 1973). Roe's impact on the theoretical level of vocational development was largely the result of

elaborating on the concept of vocational guidance. In particular, she was able to effectively incorporate the ideas of Sigmund Freud and Abraham Maslow in this elaboration.

A major theoretical development took place by bringing in the ideas associated with developmental psychology. This led to a psychology of careers based on the assumption that the general principles of human development, especially life stages, will apply to career planning. Eli Ginzberg and his associates endorsed this position in their book, Occupational Choice: An Approach to a General Theory (Columbia University Press, N.Y., 1951).

Donald Super was the theoretician who tied these two developments together (the psychology of occupations and the psychology of careers). Super's vocational psychology consisted of both differential and developmental elements. Individuals are thought to be influenced not only by their abilities and interests, but also by the specific life stage they have reached. An individual's vocational self-concept not only depends upon his patterns of abilities and interests but upon his life stage as well. Similarly, vocational self-concept may be influenced by environmental conditions such as job market demand.

In addition to these concepts that brought a sharper focus to the fundamental processes of vocational psychology, Super also formulated the concept of vocational maturity. In 1960 Super and Overstreet published the book entitled Vocational Maturity of Ninth-Grade Boys in which many variables involved in vocational maturity were presented. The definition of vocational maturity was a normative one based on an individual's "vocational behavior" and the expected "vocational behavior" for that age. The closer the actual "vocational behavior" to the expected "vocational behavior", the greater was the individual's vocational maturity, according to this definition. The concept of vocational maturity provided a better understanding of how and when an individual reaches various stages of vocational development.

The pioneering work of Super, his colleagues and students has been largely responsible for the changes in what originally was termed vocational guidance. Theorists like Anne Roe and John Holland have also made significant contributions. Roe's contributions have already been discussed. John Holland's typology of individuals and work environments was also a significant development. Nevertheless, it is the clarity of Super's theory of career selection and his concept of vocational maturity that has provided the primary basis for much of the

progress in vocational development theory.

### Measurement of Vocational Maturity

An instrument was needed to measure vocational maturity, and the work involved in the Career Pattern Study (Super, 1955; Super, Crites, Hummel, Moser, Overstreet & Warnath, 1957; Super & Overstreet, 1960) laid the foundation for the development of the Career Development Inventory (CDI) in 1972. The CDI is an objective, multifactor, self-administering, paper and pencil inventory which measures the vocational maturity of adolescent boys and girls. The CDI is a research instrument widely used in career counseling program evaluation studies today. It is also used to assess groups of students as an aid in curriculum development and instruction. A third popular use of the CDI is in individual counseling with adolescents.

As the CDI evolved so did other means of measuring vocational maturity. For example, a colleague of Super's, J. P. Jordaan (1967), was able to substantiate that the concept of vocational maturity could be used to predict vocational behaviors. Later, John Crites developed the Career Maturity Inventory (1973), which identifies the stages of

vocational maturity through questions on career-related attitudes and competencies. Another researcher, Westbrook (1973), using his own instrument, the Cognitive Vocational Maturity Test, was able to demonstrate the developmental nature of vocational maturity with a large sample of students in Grades 6 to 9.

### General Problem

In order to develop effective career counseling programs in high schools, continuing effort is being made at both local and provincial educational levels. In Sault Ste. Marie, Ontario (the location for this study), the Board of Education is currently examining all its educational programs. Also, the Ontario Ministry of Education has recently insisted that better career counseling programs be provided. Thus, a positive climate has developed for the examination of the existing career counseling program in Sault Ste. Marie.

### The Korah Collegiate Group Career Counseling Program

Two years ago at Korah Collegiate (one of Sault Ste. Marie's seven public high schools) a career counseling program

was first instituted. The program started as an experimental project with a group (N=20) of Grade 13 students. The group was exposed to a variety of activities in a 10-session program including group discussion of career decision-making. Psychometric tests were also included. From this experiment a more complete program was developed.

During this past year, further experimenting took place at another collegiate (White Pines Collegiate). The trial program at White Pines Collegiate helped develop such aspects of the new program as the monograph reading-counseling session, the parent information seminar and the interview-observation days. From these two trial programs came a more complete program combining the most promising aspects of each. The new program is called the Korah Collegiate Group Career Counseling Program. A complete description can be found in Chapter III.

#### Purpose of the Study

Career counseling programs are being given high priority by the Ontario Ministry of Education. However, the types of programs to be implemented have not been well specified. A question also exists regarding which programs may be more

effective in terms of positive influence on the vocational maturity of senior secondary school students.

The purpose of this study was to determine the effectiveness of the Korah Collegiate Group Career Counseling Program. Effectiveness was measured in terms of enhanced vocational maturity and the findings of this study will be used to modify the program in such ways as to improve its effectiveness.

#### Need for the Study

High levels of youth unemployment have caused considerable concern during the past few years. That trend appears to be continuing; therefore, career awareness through exploratory activities is taking on added importance.

The basic reason for conducting the study was the need to develop an effective career counseling program for Canadian youth at the secondary school level. The study provided a means for assessing the effectiveness of the Korah Collegiate Group Career Counseling Program in facilitating the development of vocational maturity of adolescents. This in turn could lead to the inclusion of this program, or parts of it as a regular part of secondary school guidance services in other Canadian schools.



Research in career development has been well established. However, there is a need to study programs designed to enhance vocational maturity. This study was an evaluation of a systematic program of other-initiated vocational exploratory activities. School systems are expected by the Ontario Ministry of Education to develop career counseling programs, and it was thought that this study might enhance future program development in the realm of career counseling.

#### Statement of the Problem

The problem to be studied centers on the question: To what extent is the Korah Collegiate Group Career Counseling Program effective in increasing the vocational maturity of senior level secondary school students? This determination was principally guided by Donald Super's vocational psychology theory. Super maintains that senior level secondary school students are involved in the exploratory stage within a life-long process of career development.

The major task in the exploratory stage is to crystallize a career choice on the basis of a compromise between one's self-concept and the external realities in one's environment.

The vocational maturity of individuals at this stage is directly related to this crystallization process. Students about age 17 are exploring, in a tentative way, a career choice. The emphasis is still on exploratory behavior, and career counseling programs for secondary school youth should reflect this fact.

### Main Question

In order to fulfill the author's purpose in this study, a general question has been formulated. The main question of the study is as follows:

Will the treatment group in the Korah Collegiate Group Career Counseling Program gain in vocational maturity more than any of the control groups in the study?

This question is focused on the combined effect of the different facets of the Korah Collegiate Group Career Counseling Program. Questions have also been developed regarding the effectiveness of certain activities in the program as seen by students, parents and counselors.

### Program Questions

1. Will students, parents and counselors feel that the admin-

istration and interpretation of certain standardized tests of aptitudes; interests and values helps students trying to choose a career?

2. Will students, parents and counselors feel that the experience of a personal interview with a person in a preferred occupation helps students trying to choose a career?

3. Will students, parents and counselors feel that the experience of a day of observation in a preferred work place helps students trying to choose a career?

4. Will students, parents and counselors feel that reading--discussing three monographs about a preferred occupation helps students trying to choose a career?

5. Will students, parents and counselors feel that involving parents in a career information-sharing seminar helps students trying to choose a career?

6. Will students, parents and counselors feel that a group session designed to integrate self-awareness and environmental exploration activities helps students trying to choose a career?

### Theoretical Assumptions

The study assumed the theoretical stance of Super that

patterns. These five stages are growth, exploration, establishment, maintenance and decline. As well, each stage has specific developmental tasks. Most grade 12 students are in the exploratory stage-tentative phase of this development. They are occupied with the crystallization of a career choice through attempting to understand themselves, the external environment and the compromise that must be made, given these realities. This in turn determines the vocational maturity of these individuals. The more attention that is given to the rational compromise between self-concept and the external world the greater the possibility of having an effect on vocational maturity.

Another major assumption of the study was that purposeful or guided exploration of careers better enhances vocational maturity than does random exploration.

The study was also based upon the assumptions that the model for vocational maturity developed by Super and his associates is valid and that the Career Development Inventory Form III (1976) accurately assesses the basic dimensions of vocational maturity as defined by Super and his associates.

### Definition of Terms

Vocational maturity has two definitions according to Donald Super; they are as follows:

Vocational Maturity I is defined as the life stage in which the individual actually is, as evidenced by the developmental tasks with which he is now dealing in relation to the life stage in which he is expected to be, in terms of his age.

Vocational Maturity II is defined as maturity of behavior in the actual life stage (regardless of whether it is the expected life stage), as evidenced by the behavior shown in dealing with the developmental tasks of the actual life stage compared with the behavior of other individuals who are dealing with the same developmental tasks.

A career counseling program as used in this study, is a purposeful intervention designed to enhance the subject's knowledge of self and/or portions of the external world.

Exploratory Stage involves the developing of an understanding of the self, trying out the role of budding adult, finding one's place in the community.

Participants as used in this study refers to any or all of the students, parents and counselors who participated in the study.

Crystallization is the process of formulating a generalized vocational goal from the developing interests, aptitudes and

values of the young individual. It consists of the following attitudes, attributes and behaviors; according to Super:

1. Awareness of the need to crystallize
2. Use of resources
3. Awareness of factors to consider
4. Awareness of contingencies which may affect goals
5. Differentiation of interests and values
6. Awareness of present-future relationships
7. Formulating a generalized preference
8. Consistency of preference
9. Possession of information concerning the preferred occupation
10. Planning for the preferred occupation
11. Wisdom of the vocational preference

The Career Development Inventory (CDI) is a research instrument dealing with the vocational maturity of adolescent boys and girls. It is based on Super's model for vocational maturity, which consists of five basic dimensions. These are planfulness, exploration, information, decision-making and reality orientation.

#### Limitations of the Study

The following limitations were recognized in conducting this research study.

1. Although the three counselors involved in the study have quite similar qualifications and experience, there is likely to be some differences in effectiveness as they conduct the various phases of the program.
2. Individual differences in ability among the members of the sample to understand and answer the questions involved in the test instruments may affect the scores. In turn this will have a bearing on the validity of the test scores.
3. There is a motivational factor present in the study so that differences in terms of commitment to the various phases of the program will exist. This could have an influence on the outcomes of the program.
4. The fact that the CDI is still in the research phase of development as a test instrument was a limiting factor. The new CDI (Form III) provides a comprehensive set of scores on the various aspects of vocational maturity and further validity and reliability data will better establish its usefulness.
5. Finally, mention has been made of differences in individual commitment to the program but there is also the possibility that the well-known "halo effect" may also be present.

Participation in the program in itself may cause differences to exist as it provides a series of novel experiences.

### Delimitations of the Study

The study was limited to students in the Grade 12 class at Korah Collegiate. They were 16-18 years of age. This school is located on the west side of Sault Ste. Marie, Ontario and has a large portion of students from middle class families. About forty percent of the school's population is of Italian ancestry.

Because of the peculiarities of the Ontario educational system, some students in the study (mainly university-bound) will attend high school for an additional year, Grade 13. The rest of the sample will either attend a community college or go directly into the work force after they graduate from Grade 12.

The study is delimited to a study of selected group approaches in career counseling. The selection of the group approaches used was based on the previous work done in the pilot projects.

A further delimitation of the study involved the types of activities used in the program. The self-exploration



activities were limited to the use of tests of aptitudes, interests and values plus a group interpretation session of the results. The environmental exploration activities were limited to monograph readings (three), a personal interview with a person in a chosen occupation, a day of observation in a work place of personal choice and a parent information-sharing seminar.

A feature of the design was to use random assignment for treatment or control groups. However, the control group at Korah Collegiate was then differentiated on the basis of active and inactive users of Guidance services. There are approximately equal numbers of boys and girls in this Grade 12 population.

Finally, the study used the Grade 12 population at Alexander Henry High School in Sault Ste. Marie as a further control group for post-hoc comparison purposes. This comparison added to the study in terms of the generalizability of its results.

### Summary

In this first chapter the background for the study has been introduced. As well, attention has been given to the

vocational maturity concept, as a vital aspect of the study. The general problem, the purpose of the study and the need for the study were all explained. A description of the Korah Collegiate Group Career Counseling Program was given. The major question to be investigated and program questions were all outlined. The major theoretical assumptions and their related terms were defined. The limiting factors of the study were stated. Finally, consideration was given to delimiting factors of the study.

Chapter II will include a review of the literature that focuses upon investigations related to this study. It will also deal with the implications of these research results for the present study. Chapter III will deal with the setting for the study, a description of the sample, the procedures used and the test instruments used. Chapter III will also describe the research question and program activities in detail along with the statistical analyzes utilized.

Chapter IV will incorporate a discussion of the major findings of the research with the statistical analysis procedures that were used. In Chapter V the topics will include a discussion of the findings. It will also deal with the implications of the study. A summary of the study and related data developed from it will be the other topics of the final chapter.

### The Developmental Nature of Career Selection

The "life stages" concept, first developed by Buehler (1933) is the cornerstone of developmental psychology. Stages of development were later used in a number of leading psychological theories. Piaget's cognitive development theory is one example.

Buehler (1933) had maintained that "life stages" could be applied to the process of making vocational choices. This position was later accepted by such vocational psychologists as Ginzberg (1951) and Super (1955).

Within the "life stages" concept, the idea of continuity of development is still under examination. The question is: do people grow continuously as they go through the various stages? Theorists have argued on both sides of this question. Super (1963) maintained that both continuity and discontinuity were possible. Gribbons and Lohnes (1969) supported Super's position in a longitudinal study of 111 students.

Just as the stages of development in Piaget's theory have characteristics, so do the stages of career development. Piaget's cognitive development theory regards the adolescent period (the stage of formal operations) as one which stresses exploratory behavior. Similarly, Super and Overstreet (1960) found

vocational exploratory behavior in grade 9 boys.

The recognition that individuals usually begin to plan for the future by the beginning of their adolescent period is an important aspect of developmental research. Buehler (1933) had identified this future orientation which in turn influenced Super and Overstreet in the Career Pattern Study (1960). Gribbons and Lohnes (1969) described this informed planfulness as the kernel of all activity during the exploratory period.

Individual differences in terms of exploratory behavior and future orientation led Super to the concept of vocational maturity. The Career Pattern Study (1960) began the development of the concept. Super was much influenced by developmental psychology in setting up the model. He was particularly concerned with the development of goal-directed behavior through the following sequences (Super 1974):

1. Development proceeds from random, undifferentiated activity to goal-directed, specific activity.
2. Development is in the direction of increasing awareness and orientation to reality;
3. Development is from dependence to increasing independence;
4. The mature individual selects a goal;
5. The mature individual's behavior is goal-directed.

These concepts were transposed into a large number of indices

of vocational maturity in the Career Pattern Study. Later, Jordaan and Hyde (1978) in an exhaustive study of the CPS data further examined the indices of vocational maturity both at Grade 9 and Grade 12 levels.

### Tests of Vocational Maturity

As mentioned earlier, much of the vocational maturity research was directed toward the development of test instruments. John Crites (1965) developed an instrument that refined the vocational maturity concept. He elaborated on the ideas of career competencies and on the necessary attitudes for career choices. Crites (1974) has been quite concerned with how well his model fits reality. However, he is also concerned with how his Career Maturity Inventory (CMI) can be used in career counseling.

Westbrook proposed that a test of the knowledge aspects of vocational maturity should be developed. His reasoning was based on a study by Westbrook, Parry-Hill and Woodbury (1971). They found a .76 correlation between cognitive processes and Gibbons and Lohnes' Readiness for Vocational Planning Scales (RVP). The Cognitive Vocational Maturity

Test (CVMT) was the end result of Westbrook's research. It measured six areas of cognitive knowledge needed for mature career decision-making.

Super and his colleagues were also involved in the test construction aspects of vocational maturity. The Career Development Inventory (CDI) was introduced in 1972. It had been patterned on the earlier work by Super and involved both cognitive and conative dimensions. This instrument was revised in 1976 by Albert Thompson and others who had been involved with the earlier version (Form I).

Extensive work on the vocational maturity concept has led to a better theoretical understanding of the adolescent exploratory period. The use of vocational maturity as an outcome variable in studies with the aforementioned instruments has also led to a solid position for the vocational maturity concept in the field of vocational development.

#### The Effects of Intervention Techniques on Vocational Maturity

A number of researchers have tried different ways to intervene in the vocational maturity process. This applied research has had mixed results. For example, individual

counseling influenced vocational maturity in Bovee's study (1967), while Williams in the same year found no significant differences due to individual counseling. Both these researchers had used the attitude scale of the CMI to determine changes.

Most of the applied research has spanned the levels of Grade 8 to the freshman year of college. The age range for most experiments has thus been from 13 to 19. The exploratory period in vocational psychology is considered to be from ages 15 to 24.

The research has thus tended to deal with the pre-exploratory to the middle exploratory period. An example of research during the pre-exploratory period is a study by Asbury (1967). In this study, disadvantaged Grade 8 students showed increased vocational maturity after individual counseling.

A number of applied research studies have used the CMI-Attitude Scale to measure differences due to treatments. An early example of this was a study by Gilliland (1966). In this case the treatment was 36 group sessions. Each session was one hour long and focused on feelings about school and work. Gilliland found significantly higher attitudinal scores

on this sample of Black youth in Grades 10, 11 and 12.

Another study that used the CMI-Attitude Scale as the dependent variable was Goodson's study (1969) of college freshmen. He used 3 different treatments. For one large group only career information was provided. Another large group received career information and test scores and the third group was broken down into smaller units for self-exploration activities. Goodson reported all groups showed significant gains in vocational maturity.

Vriend (1969) found that a program of two years duration with high school seniors in Detroit was successful in modifying the vocational maturity of 168 students. This program integrated vocational knowledge and career exploratory activities.

In 1972 a college freshmen study was done by Pappas. The treatment in this case was a program of counseling modules lasting two years. Pappas reported gains in vocational maturity especially in career choices and information seeking behavior. On the other hand, a short term counseling experiment with college frosh by Jackson (1972) failed to detect significant differences in vocational maturity. This research is again evidence of the mixed results found in the field.



The use of computer data for exploration of self, educational and occupational information formed the bases of exploration in Harris' (1972) dissertation. She used the 3 scales of the CDI (Form I) to pre and post-test a randomly chosen group (N=184) of 10th graders. There were significant gains on two CDI scales (planfulness and use of resources for exploration). Knowledge of occupation, (based on a questionnaire) increased due to the exploratory activities but the number of occupations considered did not increase.

The introduction of computer based career exploration programs also led to a large scale experiment in Genessee County, Michigan. A number of gains in vocational maturity were made by 10th grade users of the Educational and Career Exploration System (ECES). Myers (1975) used the CDI as the dependent variable in this large study.

A study similar to the present study was Christen's (1973) experiment with high school sophomores. The treatment included: (a) individual interpretations of aptitude, interest inventory and work values inventory test results, (b) group sessions focusing on work opportunities, (c) group sessions focusing on self-knowledge and its relation to work and work information. Christen found that females gained in

vocational maturity while males did not. She also determined that there was a good deal of reliance on family and friends as opposed to school personnel for career exploration discussions.

Disadvantaged youth in New York City were the focus of a study by Hamdani (1974). These students (N=112) were in Grade 10 and they were exposed to a year long career education course. Hamdani found that these students made significant gains on all 3 scales of the CDI (Form I).

There was a study coordinated with Hamdani's. The design of this study by Hammer (1974) focused on the influence of group counseling in addition to the influence of a career education course. Hammer used 2 experimental groups (N=33 and N=45) and one control group (N=135). The treatment involved exposure to a career education course for one experimental group. The second group received the career education course plus group counseling. The group counseling involved ten, 40 minute sessions devoted to exploration of self (interests, abilities, values and decision-making principles). Both groups of disadvantaged youth made significant gains in vocational maturity--based on Scale C (Information and Decision-Making) of the CDI. Gains were also made on the CMI.

However, the group that also received group counseling did not gain any more than the one that received the career education course, alone.

Graff and Beggs (1974) conducted a study based on using a career education course to promote positive vocational attitudes. These authors used a sample of 62 volunteers at the Grade 11 level. Vocational maturity did increase as measured by the CMI-Attitude Scale. These changes persisted when a follow-up was done eight months later.

Corbin (1974) was interested in the effectiveness of counselor assisted exploratory activities on vocational maturity. His sample (N=90) of Grade 11 students from a parochial school were involved in a series of 3 individual counseling interviews. The interviews were semi-structured with follow-up activities for the students. Of the six hypotheses that Corbin formulated only the one involving informed planfulness was supported. The instrument used in this study was the CDI.

A study by Healy (1974) focused on using the CDI for evaluating a group career counseling program. A sample of 35 college freshmen was involved. Healy found that five sessions (2 hours each) of group interaction did increase

vocational maturity as measured by the CDI. A second group (N=24) went through a similar procedure and were compared with a control group using t-tests of correlated means. These t-tests indicated that group career counseling had improved vocational maturity.

The influence of short term individual counseling on career maturity has had some positive results. Flake, Roach and Stenning (1975) reported improvement in career maturity attitudes and in self-appraisal (as measured by the CMI) on a random sample of Grade 10 students. The students went through a series of three individual counseling sessions. One session was an orientation to the program, a second focused on tests and their interpretations while a third session focused on positive reinforcement for the two previous experiences. Significant gains in career attitudes and self-appraisal were reported.

The influence of an interest inventory administration on vocational behavior was the focus of Zytowski's study (1977). Zytowski found that receiving the results of the Kuder Occupational Interest Inventory increased self-knowledge. He did not find that his sample made gains in confidence about career plans nor in their information seeking. Zytowski's

sample (N=157) consisted of high school juniors and seniors. Again, these were mixed results in a career development program. However, this program was limited to test administration and interpretation.

A year of experiences available at a vocational skill centre were considered by Dennis (1977) as positive influences on the career maturity of a sample of 40 students. Dennis found that his sample did not show significant increases in career maturity as measured by the CMI.

A recent attempt to evaluate an experience-based career education program was done by Carey and Weber (1979). Although random assignment wasn't conducted, there was an attempt to match treatment and control groups. The CMI-Attitude Scale was used to measure career maturity. The authors did not find significant differences in career maturity due to the program.

This last study is an illustration of the tendency to equivocal results in these studies. Sometimes, there is support for interventions and sometimes it seems to be a fruitless exercise. However, when we consider the complex set of variables that must be dealt with, the mixed results must reflect these complexities.

## Summary

Steady progress with the major constructs of vocational development theory has been the case for some time. We still do not have a complete understanding of career selection but a complex interdependence of critical personal and environmental variables is involved (Slater, 1979). We have now accepted the developmental nature of career selection.

Today we possess test instruments that measure vocational maturity. These tests are of considerable use for understanding the concept of vocational maturity. However, other attributes of individuals like intelligence, socioeconomic status and achievement should be taken into account along with vocational maturity (Bailey and Stadt, 1973). Jordaan and Heyde (1978) explain that some of the dimensions of vocational maturity are still not understood, but definite progress has been made.

The present study was developed to try a comprehensive career counseling program that was feasible in a high school setting. Some of the aspects of this research have been included in previous studies, with mixed results. Some of the environmental phases of the program, like the individual

interviews, have not been previously used as parts of a program. The major concern of the study was to describe the combined effect of the program on its participants.

## CHAPTER III

### Procedures for the Study

#### Introduction

The intent of this research was to study the effects of selected career counseling activities on the planning, exploring, information gathering and decision-making of senior high school students. These dimensions are aspects of the experimental Korah Collegiate Group Career Counseling Program.

To aid the development of future programs the above experimental career counseling program was established and tested. The assessment procedure for determining the future of the program was based on questionnaires given to the participating students, their parents and to the counselors who conducted the program. The study was conducted at Korah Collegiate, a composite high school in Sault Ste. Marie, Ontario.

The main aspects of the program consisted of selected personal and exploratory environmental experiences. These experiences were channeled through a group counseling process in a series of three sessions. The treatment group was sub-



divided into three equal sections for the sessions. Each session dealt with a different phase of the program.

The first group session dealt with monograph readings that had been assigned. This session included group discussion of the importance of reading in career exploration. The students were also questioned on specific occupational data gained from their reading.

The second group session focused entirely on interpreting tests of aptitudes, interests and values that had been administered to these students. Profiles of the results of each of the tests were given to the students. Guidelines for career decision-making based on test data were discussed.

The final session was designed to consolidate the various experiences into an integrated view that facilitated further career planning. Group discussion centered on the influence of the program and how the experiences could be utilized.

In order to carry out the primary purpose of the investigation, the following data gathering instruments were utilized. The Career Development Inventory, Form III, was used to measure the planning, exploring, decision-making and informational knowledge of the treatment group. The Strong-Campbell Interest Inventory was administered to assess the career interests of the students involved. The Differential

Aptitude Tests were used to determine specific abilities among students in the treatment group. The Study of Values was administered to determine the relative influence of different sets of values held by these students, and three questionnaires were developed to gather the views of the participating students, counselors and parents regarding various aspects of the program.

Random sampling techniques were used to obtain the treatment and control groups. In addition, a post-hoc comparison was made with students in another high school.

#### The Setting for the Study

Korah Collegiate, located in the northwest quadrant of Sault Ste. Marie, Ontario was the setting for the study. There are seven high schools operated by the Sault Ste. Marie Board of Education. Five of these schools are termed composite high schools which combine academic, technical and business programs. Korah Collegiate is a composite high school. The other two schools have different programs with one (Sault Collegiate) having primarily an academic program. Alexander Henry High School, the seventh school, has a vocational program designed primarily for slow learners.

A total of 14 elementary schools provide the students for Korah Collegiate. Seven schools from each of the public and separate school systems contribute to the student enrollment. The elementary school systems are set up on a neighborhood basis and most of the schools are within a two mile radius of Korah Collegiate. The exceptions to this are R. M. Moore Public School and Prince Township Public School.

The total enrollment at Korah Collegiate at the time of this study was 1202 students. The largest ethnic group in the student population was the Italian group which makes up approximately 40% of the school population. Analysis of socioeconomic status indicated that students from working class and lower-middle class families dominated. Only 15% of the students came from middle and upper-middle class homes. A majority of the student's fathers were employed at Algoma Steel Corporation.

#### Description of Korah Collegiate Group Career Counseling Program

The program was timetabled to take approximately six weeks from mid-September until the end of October. The chronological sequence of the program was as follows:

- First week - Pre-test of CDI  
Monographs assignment - career determined  
by choice on CDI  
Monograph group session
- Second week - Test administration with tests of  
aptitudes, interests and values
- Third week - Test interpretation group sessions  
Beginning of setting up personal  
interviews and observation days
- Fourth week - Personal interviews and observation  
days
- Fifth week - Personal interviews and observation  
days
- Sixth week - "Wrap-up" sessions  
Post-test of CDI

One hundred and eighty-six grade 12 students were given the pre-test of the CDI. One hundred students were then randomly selected from the sample to be the treatment group. The rest of the group (86) were considered as the control group which was later subdivided into users and non-users of guidance services. Eighty-five of the treatment group remained involved throughout the program and 74 of the control group did the post-test of the CDI. They were subdivided into 21 users of guidance services and 53 non-users.

During the program the treatment group (N=85) was subdivided into three sections alphabetically with one counselor assigned to each section. This was done to facilitate the

group session experiences as each counselor had about 28 students that they met with for the group sessions. The personal interviews and observation days were coordinated by one counselor with the others helping out. Test administration sessions were done as a single group. The parent information sharing seminar was conducted by one counselor, with the researcher as a resource person.

The Korah Collegiate Group Career Counseling Program was designed to enhance vocational maturity by providing self-awareness and exploratory environmental experiences.

The self-awareness phase included the administration of objective tests in the areas of aptitudes, interests and values. The test results were profiled for the students. Test results were discussed in group sessions devoted specifically to the interpretation of the tests (Appendix B). This aspect of the program was considered to be the self-awareness phase as it provided the opportunity for increased self-awareness through the medium of objective test results about the students aptitudes, interests and values.

The tests chosen were all established instruments in each of the areas of concern. The tests were as follows:

The Differential Aptitude Tests (D.A.T.) Form S, Bennett, Seashore and Wesman.

An area of self-awareness that required analysis was that of specific abilities or aptitudes. The DAT is a well known instrument with suitable grade 12 norms applicable to members of the treatment group. These tests were designed for use in counseling, especially for determining immediate and long range educational or vocational goals. For these reasons the DAT was chosen to measure and help interpret the specific abilities of each student.

The Strong-Campbell Interest Inventory (SCII), Campbell

This inventory was chosen as one of the best available sources for measuring interests of adolescents and young adults. The SCII has a good theoretical structure as well as impressive reliability and validity statistics. This test was known to the counselors in the program and there was accessibility to a scoring service through the Ontario Ministry of Education.

The Study of Values, Allport, Vernon and Lindzey

This test was chosen as a measure of associated values for consideration in career decision-making by the program participants. The 1960 revision used in this study provided high

school norms useful in the group counseling test interpretation sessions.

The monograph assignment and group session, the personal interviews and the observation days were considered to be the environmental exploration phases of the Korah Collegiate Group Career Counseling Program. The first step taken was to assign all students in the treatment group the task of reading 3 monographs on a career of interest. This assignment was the first step taken after the pre-test on the CDI was done (Appendix B). One week after this assignment was given, group sessions with each of the 3 sections of the treatment group were held. These group sessions focused on the advantages of reading about careers. A short questionnaire was used to open up group discussion. There was also an attempt made by each of the 3 counselors to facilitate group communication in these initial group sessions (Appendix B).

The next phase of the program was the previously mentioned self-awareness phase with its test administration and group test interpretation sessions. The reasons for this sequence in the program include: the decision to have the reading first to stimulate the treatment group's interest in the program and there was a time delay in establishing the administration time for the Strong-Campbell Interest Inventory.

The self-awareness sessions were followed by the setting up and carrying out of the personal interviews and the days of observation in a work place of interest. This phase of the program took approximately three weeks to complete.

The next phase of the program was the parent information sharing seminar. This was a 2 hour evening session held at Korah Collegiate. It focused on a description of the program and the intent of the various phases of the program (Appendix B). This was followed by a question and answer period. The seminar was attended by 28 parents.

The final phase of the program consisted of the "wrap-up" sessions. These were designed to provide an integration of the various phases of the program into a meaningful experience of use in their career planning. Participants were given an overview on how each phase of the program could aid their career decision-making followed by group discussion (Appendix B).

The entire program was scheduled to take place in the 6-week period from mid-September until the end of October. Because of unforeseen delays, the program ended on November 22.

The participants were released from classes for all sessions. The testing sessions varied from 90 minutes for the CDI (Pre and Post-test) and two-90 minute sessions for the DAT to 60



minutes for a combined administration of the SCII and the Study of Values. Each of the three group sessions was 60 minutes in length.

### The Sample

Determination of the size and kind of sample for a meaningful study was the first consideration in sample selection.

The criteria selected were as follows:

- 1) The experimental treatment group consisted of 100 students enrolled in a grade 12 program at Korah Collegiate. These students were randomly selected (using a random number table) from the 186 students given a CDI pre-test.
- 2) The control group consisted of the remaining 86 students not selected for the treatment group at Korah Collegiate. This control group was subdivided for analysis purposes between users and non-users of Guidance services.

The criteria selected for differentiating users and non-users of Guidance services consisted of student and counselor agreement on responses to two of the following three possibilities:

- 1) I have gone to the Guidance Department for help related to possible careers.
- 2) I have used the Guidance Department help on possible careers at least once in 1979.
- 3) I intend to use the Guidance Department for help on careers sometime in the near future.

To obtain a group that could provide an additional post-hoc comparison with the groups from the Korah Collegiate sample, students from Alexander Henry High School were selected for the following reasons: It is a vocational high school of 725 students. There are 106 grade 12 students enrolled at this school. The program has an emphasis on vocational training. This includes work week experiences for grade 12 students. Not only is there more exposure to work experiences but most of the teachers have come from business and industry settings. The differences in school population (that is, a composite high school population versus a vocational school population), it was thought, would provide a worthwhile comparison of the effectiveness of the Korah Collegiate Group Career Counseling Program.

On the same day as the post-test on the CDI for the Korah sample, 70 grade 12 students from Alexander Henry High School were administered the CDI. The number (70) used for post-hoc

comparison was determined by the total number of grade 12 students in the school on that occasion. Absences for illness and work week placements account for the difference between the total grade 12 population and the number who participated.

### The Design

The study was based on experimental design No. 4 described by Campbell and Stanley (Campbell and Stanley, 1972, p. 13) as the pre-test-post-test control group design. This design can be symbolized as:

R O X O

R O O

As indicated earlier the treatment group was randomly assigned from the total number of students given the pre-test on the CDI. The subdivision of the control group into users and non-users categories means that this research could be symbolized:

R O X O

R O O

R O O

A distinct advantage of design No. 4 is that it effectively

controls for threats to internal validity. In the case of external threats to validity the caution of Campbell and Stanley (1972, p. 17-18) about generalizing any results must be kept in mind.

### Description of the Instruments

In order to establish the influence of the program on the vocational maturity of the participants, the following instrument was selected. Also, a series of questionnaires developed by the author was used to assist in the evaluation of the program. The reasons for selecting the instrument and a description of each of the questionnaires used is provided here.

1. The Career Development Inventory (Form III), Super, Forrest, Jordaan, Lindeman, Myers and Thompson

Although this instrument was still in a developmental stage, it was chosen because it is the one most closely associated with Super's model of career development, the basis for this study (Appendix A). The comprehensive nature of the instrument was another reason for the choice. For example, the CDI provided scores on two attitudinal and four cognitive dimensions of vocational maturity. These dimensions are:

(a) Extent of planning: this is an attitudinal scale which is assessed by obtaining perceived time spent relative to peers on the various phases of career planning.

(b) Use and Evaluation of Resources in Exploration: this part measures attitudes related to willingness to use resources available in career exploration.

(c) Career Decision-Making: this is the first of the cognitive scales and deals with the principles and applications of principles involved in making sound decisions.

(d) Career Development Information: this measures one type of information based on the need for career exploration in adolescence and early adulthood. This part of the test deals directly with the knowledge required at the exploratory stage. It also focuses on developmental tasks required at this stage. For example, at this stage a good deal of career exploration is required.

(e) World of Work Information: this part measured knowledge of the world of work. It assesses range of occupational and work information.

(f) Information about Preferred Occupations: this final type of information is based on knowledge of the selected occupational group of interest to the student. Appropriate responses for the

various occupational groups represented were established using the Occupational Outlook Handbook and the Dictionary of Occupational Titles. In some cases expert judges determined the answers.

From the six parts of the CDI, scores were available for total vocational maturity for the two aspects (attitudinal and cognitive) of vocational maturity and for each of the six scales as outlined above. The CDI provides scores that relate closely to the phases of the Korah Collegiate Group Career Counseling Program. Vocational maturity is a complex construct embracing attitudinal and cognitive factors. Similarly, the Korah Collegiate Group Career Counseling Program had a complex base designed to enhance self-awareness and environmental exploration factors. There is a logical connection between the factors of vocational maturity and the design of the program. For example, attitudes are related to self-awareness, and cognitive or knowledge factors are related to the environmental explorations one carries out. The program included personal interviews and days of observation which should have affected the knowledge a student has about the world of work and the information a student knows about a preferred occupation. Therefore, there was a strong connection between the CDI as an instrument which

measures vocational maturity and the Korah Collegiate Group Career Counseling Program's phases of self-awareness and exploratory environmental experiences. Finally, the CDI also gave a total vocational maturity score which coincided with the intent of the Korah Collegiate Group Career Counseling Program. That is, the researcher was mainly concerned with the total impact that the program would have on its participants.

## 2. Student Questionnaire

This questionnaire was designed by the author. Its purpose was to gather opinions regarding the program from the participants (Appendix A). Questions were set up using a Likert model with 5 possible responses. In addition, the students were asked to describe which parts of the program they wanted changed or dropped.

## 3. Counselor Questionnaire

This author-designed questionnaire concentrated on the counselors' views of the program (Appendix A). It also asked for suggestions regarding changes in or elimination of parts of the program in the future.

## 4. Parent Questionnaire

In this questionnaire the author asked for the parents'

views of the program, especially the influence it had on their sons/daughters (Appendix A). Opportunity was also given to suggest changes for future programs through this self-report data method.

### The Research Questions

The study was primarily descriptive and the primary concerns of the research were first described in question form. The main question focused upon the effects of the program in its entirety. It was posed as follows:

Will the treatment group in the Korah Collegiate Group Career Counseling Program gain in vocational maturity more than any of the control groups in the study?

Six additional questions were developed to assess certain activities within the program itself. Although the emphasis of the study was upon the main question, the influence of the different aspects of the program was also of concern. It was thought that the participants' reactions to each phase of the program would have a bearing on whether it would be included in that form in future years.

The reactions of program participants were obtained through the use of questionnaires. Parts of each questionnaire



were directly linked to the six program questions. These questions were designed to gather the following information.

The first program question focused on the self-awareness phase of the program. It was designed to obtain the feelings of participants as to how helpful the standardized test sessions had been for choosing a career. The first program question asked:

Program Question #1. Will students, parents and counselors feel that the administration and interpretation of certain standardized tests of aptitudes, interests and values helps students trying to choose a career?

The second program question dealt with a specific environmental phase of the program, that is, the influence of the personal interview with a person in a preferred occupation.

This question asked:

Program Question #2. Will students, parents and counselors feel that the experience of a personal interview with a person in a preferred occupation helps students trying to choose a career?

In the third program question, the concern focused on the influence of the day of observation in a preferred work place.

This question asked:

Program Question #3. Will students, parents and counselors feel that the experience of a day of observation in a preferred work place helps students trying to choose a career?

The fourth program question dealt with the influence of reading monographs on the students' career choices. This question asked:

Program Question #4. Will the students, parents and counselors feel that reading--discussing three monographs about a preferred occupation helps students trying to choose a career?

The fifth program question dealt with the information sharing seminar for parents. This question asked:

Program Question #5. Will students, parents and counselors feel that involving parents in a career information sharing seminar helps students trying to choose a career.

The final or sixth program question concerned the "wrap-up" sessions which were designed to help students integrate their experiences for career decision-making. The sixth question asked:

Program Question #6. Will students, parents and counselors feel that a group session designed to integrate self-awareness and environmental exploration activities helps students trying to choose a career?

The six program questions were intended to obtain information about specific aspects of the program. Program question #1 dealt with the self-awareness phase of the program. Program questions #2, 3, 4 and 5 dealt with the environmental exploration phases of the program. Program question #6 dealt with the "wrap-up" sessions which combined both phases of the program.

The actual questions on the questionnaires from which answers were obtained for the program questions varied only slightly on the separate questionnaires for students, parents and counselors (Appendix A). The analysis of this data was based on frequency counts of responses to the particular questions related to the six program areas. A frequency distribution table dealing with the treatment group responses to their questionnaire is found in Chapter 4. Frequency distribution tables for parent and counselor responses to their questionnaires are found in Appendix C and Appendix D.

#### Statistical Analysis of the Data

The statistical analysis of the data was carried out at the Computer Center of the Institute for Research on Teaching, Michigan State University. All data were coded for more efficient handling. Several statistical procedures were utilized

depending on the nature of the data and the type of results which were to be analyzed.

The researcher examined the data for any initial differences between the control groups and the experimental sample. The researcher also examined the effects of the treatment program on the vocational maturity of the experimental sample. The measures under review were performances on the different scores available from Super's Career Development Inventory (Form III). Each of the 6 scales of the CDI (Form III), the combined attitudinal scores (Parts 1 and 2) the combined cognitive scores (Parts 3, 4, 5 and 6) plus the total vocational maturity scores (Parts 1-6) were examined.

Each of the Korah groups was pre- and post-tested with the CDI. The Alexander Henry High School group was tested with the CDI for post-hoc comparison purposes.

Analysis of variance was used to test the groups for initial differences and in comparing the groups with one another. The findings for the sample group were also examined for significant positive change from the pre- to post-testing dates. This was done for each of the 9 scores available from the CDI.

Analysis of variance was also utilized for gains scores analysis on each of the 9 scores available from the CDI. The

analysis of variance data provided a basis for some statistical determinations related to the main research question of the study. The analysis of variance sections address the question: Was the experimental treatment effective in enhancing vocational maturity?

The study was meant to be primarily descriptive. Often educational researchers choose the .10 level of significance for this kind of study. However, it was decided that the more rigorous .05 level of significance would be used in the analyses of variance done. Statistical determinations in the study were thus based on the relatively stringent .05 level of significance.

The six program questions provided a base for making determinations on the reactions of participants to the different phases of the program. These reactions were measured by obtaining responses from questionnaires and then calculating frequency distributions of these responses. The six program questions were closely linked to the questions on each of the questionnaires (Appendix A). Data obtained by this method were used to make recommendations for future programs and these are discussed in Chapter 5.

## CHAPTER IV

### Analysis of the Data

#### Introduction

The results of the investigation are presented in this chapter. A statistical analysis of the data gathered before and after the treatment is given. The chapter's organization mainly focuses upon an assessment of treatment effects. This assessment was designed to help determine the answer to the main question of the study.

The latter part of the chapter deals with a summary of an assessment of program elements. This assessment was done by relating questionnaire responses to the six program questions.

#### Assessment of Treatment Effects

##### Main question:

Will the treatment group in the Korah Collegiate Group Career Counseling Program gain in vocational maturity more than any of the control groups in the study?

Before any statistical determinations were made about

treatment effects, it was necessary to establish if there were any significant differences among the groups prior to treatment. The main question dealt with gains in vocational maturity due to the program so it was important to know if any of the groups had greater vocational maturity in any of the nine aspects of vocational maturity measured by the CDI prior to the program beginning. To establish this situation initial mean differences were determined between the control and experimental groups on the the nine parts of the CDI. Tables 4.11 through 4.19 show the results of these comparisons on the six primary parts of the CDI as well as the combined attitudinal (Part 7), combined cognitive (Part 8) and total vocational maturity (Part 9) scores. Parts 1 and 2 are considered attitudinal scales and their totals combined become Part 7. Parts 3, 4, 5 and 6 are considered cognitive scales and their totals combined become Part 8. Finally, a total for all 6 scales becomes Part 9 or total vocational maturity.

No significant differences existed on parts 1, 2, 3, 4, 6, 7, 8 and 9 in the pre-test situation at the beginning of the study. A significant difference did exist on Part 5, World of Work Information (Table 4.15) of the CDI in the pre-test situation.

Table 4.11

Analysis of Variance for Pre-test CDI, Part 1, (Extent of Planning) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	205.7970	2	102.8085	.3165	.7291
Within Groups	50711.0458	156	325.0708		
Total	50916.8428	158			

Group	N	M	SD
Korah Treatment	85	94.4941	18.7367
Korah Users	21	95.6667	15.8566
Korah Non-Users	53	92.4528	17.6467



Table 4.12

Analysis of Variance for Pre-test CDI, Part 2, (Use and Evaluation of Resources in Exploration] for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	10611.0302	2	5305.5151	2.4125	.0929
Within Groups	.343E+06	156	2199.1744		
Total	.353E+06	158			

Group	N	M	SD
Korah Treatment	85	266.3176	43.2146
Korah Users	21	274.5238	56.2358
Korah Non-Users	53	284.3208	48.6256

Table 4.13

Analysis of Variance for Pre-test CDI, Part 3, (Career Decision-Making) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	40.6545	2	20.3273	1.1112	.3318
Within Groups	2853.8360	156	18.2938		
Total	2894.4906	158			

Group	N	M	SD
Korah Treatment	85	16.7882	3.7957
Korah Users	21	18.3333	4.3856
Korah Non-Users	53	16.9811	4.9205

Table 4.14

Analysis of Variance for Pre-test CDI, Part 4, (Career Development Information) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	45.3218	2	22.6609	1.0606	.3487
Within Groups	3333.1687	156	21.3665		
Total	3378.4906	158			

Group	N	M	SD
Korah Treatment	85	21.2000	4.3720
Korah Users	21	21.7143	4.4062
Korah Non-Users	73	20.2264	5.0750

Table 4.15

Analysis of Variance for Pre-test CDI, Part 5, (World of Work Information) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	140.1532	2	70.0766	3.6040	.0295*
Within Groups	3033.2808	156	19.4441		
Total	3173.4340	158			

Group	N	M	SD
Korah Treatment	85	17.3882	3.6616
Korah Users	21	19.2381	4.5815
Korah Non-Users	53	16.2264	5.3480

\* Significant <.05

Table 4.16

Analysis of Variance for Pre-test CDI, Part 6, (Information about Preferred Occupation) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	15.2855	2	7.6428	.3379	.7138
Within Groups	3528.1987	156	22.6167		
Total	3543.4843	158			

Group	N	M	SD
Korah Treatment	85	18.6000	4.7665
Korah Users	21	17.6667	4.4422
Korah Non-Users	53	18.5472	4.8539

Table 4.17

Analysis of Variance for Pre-test CDI, Part 7, (Combined Attitudinal Score Parts 1 & 2) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	8439.7028	2	4219.8514	1.2709	.2835
Within Groups	.517E+06	156	3320.2828		
Total	.526E+06	158			

Group	N	M	SD
Korah Treatment	85	360.8000	53.6037
Korah Users	21	364.4762	67.8378
Korah Non-Users	53	376.7736	59.5760

Table 4.18

Analysis of Variance for Pre-test CDI, Part 8, (Combined Cognitive score Parts 3, 4, 5, 6) for the Korah Treatment and Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	455.3411	2	227.6705	1.1735	.3120
Within Groups	30266.0552	156	194.0132		
Total	30721.3962	158			

Group	N	M	SD
Korah Treatment	85	73.9176	12.1872
Korah Users	21	76.9524	14.0516
Korah Non-Users	53	71.6038	16.3146

Table 4.19

Analysis of Variance for Pre-test CDI, Part 9, (Total vocational maturity - Parts 1, 2, 3, 4, 5, 6) for the Korah Treatment and the Korah Control Groups.

Pre-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	7978.7455	2	3989.3728	1.0253	.3611
Within Groups	.607E+06	156	3891.0634		
Total	.614E+06	158			

Group	N	M	SD
Korah Treatment	85	433.7294	58.0179
Korah Users	21	446.6667	76.7114
Korah Non-Users	53	448.3774	63.0266



### Treatment Effects (Post-test)

This subsection of assessment of treatment effects includes the findings regarding any significant positive changes between the pre- and post-testing dates. Tables 4.21 through 4.29 show the results of these comparisons on the six primary parts of the CDI as well as the combined attitudinal (Part 7), combined cognitive (Part 8) and total vocational maturity (Part 9) scores. Significant positive differences existed on all 9 variables in the post-test situation. However, in the case of Part 5, a significant difference had existed on the pre-test.

Included in these tables are the data for the Alexander Henry High School Control Group used for post-hoc comparison. In all but one case (Part 1) the means for this group were lower than that for any of the other groups. On Part 1, the mean for this post-hoc comparison group was lower than both the treatment and Korah Users groups.

Table 4.21

Analysis of Variance for Post-test CDI, Part 1, (Extent of Planning) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	9569.5197	3	3189.8399	8.4161	.0000*
Within Groups	85278.2358	225	379.0144		
Total	94847.7555	228			

Group	N	M	SD
Korah Treatment	85	108.5765	19.2863
Korah Users	21	101.9048	17.3491
Korah Non-Users	53	94.2642	17.2662
Alexander Henry	70	95.2571	21.7067

\* Significant < .05

Table 4.22

Analysis of Variance for Post-test CDI, Part 2, (Use and Evaluation of Resources in Exploration] for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	36758.6862	3	12252.8954	4.6553	.0035*
Within Groups	.592E+06	225	2632.0314		
Total	.628E+06	228			

Group	N	M	SD
Korah Treatment	85	297.7294	41.3085
Korah Users	21	288.3333	47.5419
Korah Non-Users	53	285.2830	52.5713
Alexander Henry	70	266.9571	61.3792

\* Significant <.05

Table 4.23

Analysis of Variance for Post-test CDI, Part 3, (Career Decision-Making) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	P
Between Groups	1324.4177	3	441.4726	19.2764	.0000*
Within Groups	5153.0059	225	22.9022		
Total	6477.4236	228			

Group	N	M	SD
Korah Treatment	85	17.0941	4.5346
Korah Users	21	17.0476	6.2488
Korah Non-Users	53	15.1132	5.2866
Alexander Henry	70	11.4857	4.1555

\* Significant <.05

Table 4.24

Analysis of Variance for Post-test CDI, Part 4, (Career Development Information) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	1712.2114	3	570.7371	14.7360	.0000*
Within Groups	8675.6834	224	38.7307		
Total	10387.8947	227			

Group	N	M	SD
Korah Treatment	85	19.3529	6.2062
Korah Users	21	18.0952	7.5359
Korah Non-Users	53	17.4038	6.6811
Alexander Henry	70	12.8286	5.4213

\* Significant <.05

Table 4.25

Analysis of Variance for Post-test CDI, Part 5, [World of Work Information] for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	P
Between Groups	1001.4453	3	333.8151	11.3247	.0000*
Within Groups	6602.8003	224	29.4768		
Total	7604.2456	227			

Group	N	M	SD
Korah Treatment	85	15.8353	5.4464
Korah Users	21	16.5714	6.6300
Korah Non-Users	53	14.7925	5.7458
Alexander Henry	70	11.1594	4.7205

\* Significant <.05

Table 4.26

Analysis of Variance for Post-test CDI, Part 6, (Information about Preferred Occupation) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	291.2907	3	97.0969	4.3899	.0050*
Within Groups	4954.4417	224	22.1180		
Total	5245.7325	227			

Group	N	M	SD
Korah Treatment	85	18.7647	4.4605
Korah Users	21	18.0476	4.3758
Korah Non-Users	53	18.2075	5.3470
Alexander Henry	74	16.0870	4.5592

\* Significant <.05

Table 4.27

Analysis of Variance for Post-test CDI, Part 7, (Combined Attitudinal, Parts 1 & 2) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	67742.0317	3	22580.6772	5.7374	.0008*
Within Groups	.885E+06	225	3935.6974		
Total	.953E+06	228			

Group	N	M	SD
Korah Treatment	85	403.6353	52.5805
Korah Users	21	390.4762	59.6830
Korah Non-Users	53	379.5472	59.8699
Alexander Henry	70	362.2714	75.7251

\* Significant <.05



Table 4.28

Analysis of Variance for Post-test CDI, Part 8, (Combined Cognitive, Parts 3, 4, 5, 6) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	15846.4893	3	5282.1631	17.4914	.0000*
Within Groups	67946.9430	225	301.9864		
Total	83793.4323	228			

Group	N	M	SD
Korah Treatment	85	71.0353	16.4761
Korah Users	21	69.7619	21.5961
Korah Non-Users	53	65.4151	20.0590
Alexander Henry	70	51.5429	14.6917

\* Significant <.05

Table 4.29

Analysis of Variance for Post-test CDI, Part 9, (Total Vocational Maturity, Parts 1, 2, 3, 4, 5, 6) for the Korah Treatment, Korah Control and the Alexander Henry Control Groups.

Post-test					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	.147E+06	3	49190.3874	10.7949	.0000*
Within Groups	.102E+07	225	4556.8203		
Total	.117E+07	228			

Group	N	M	SD
Korah Treatment	85	474.9765	57.6477
Korah Users	21	460.2381	65.4308
Korah Non-Users	53	444.9623	67.4043
Alexander Henry	70	413.7571	78.4130

\* Significant <.05

Tables 4.21 to 4.29 indicate significant differences in post-test comparison between the experimental and control groups. The differences are found in all factors of vocational maturity. Table 4.25 indicates a significant difference on Part 5 but there was also significant difference at pre-testing. Considerable support in the affirmative direction is given to the main question, suggesting vocational maturity enhancement for the treatment group compared to the control groups.

#### Additional Analysis

An analysis of gains scores on each of the 9 variables was utilized for additional analysis. Tables 4.31 to 4.39 show gain scores by each group using analysis of variance. Parts 1, 2, 3, 7 and 9 showed significant gains. The gains analysis suggests that the treatment had greater effects on attitudinal factors since Parts 1, 2 and 7 comprise the attitudinal scales of the CDI. The cognitive scales 3, 4, 6 and 8 (the combined cognitive scales) did not reach significance. In Part 9, total vocational maturity score for Parts 1, 2, 3, 4, 5 and 6, there was a statistically significant difference between the pre- and post-test scores.

Table 4.31

Analysis of Variance for Pre- and Post CDI gains on Part 1  
(Extent of Planning) for the Korah Treatment and Korah  
Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	5174.0537	2	2587.0269	9.0051	.0007*
Within Groups	44816.3463	156	287.2843		
Total	49990.4000	159			

Group	N	M	SD
Korah Treatment	85	14.0824	16.9868
Korah Users	21	6.2381	11.8064
Korah Non-Users	53	1.8113	18.4964

\* Significant <.05

Table 4.32

Analysis of Variance for Pre- and Post CDI gains on Part 2  
(Use and Evaluation of Resources in Exploration) for the  
Korah Treatment and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	31259.9929	2	15629.9965	7.4657	.0025*
Within Groups	.326E+06	156	2093.5753		
Total	.357E+06	159			

Group	N	M	SD
Korah Treatment	85	31.4118	44.4708
Korah Users	21	13.8095	45.5858
Korah Non-Users	53	.9653	47.8206

\* Significant <.05

Table 4.33

Analysis of Variance for Pre- and Post CDI gains on Part 3  
(Career Decision-Making) for the Korah Treatment and Korah  
Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	165.0918	2	82.5459	3.2498	.0942
Within Groups	3962.4082	156	25.4001		
Total	4127.5000	159			

Group	N	M	SD
Korah Treatment	85	.3059	4.5383
Korah Users	21	-1.2857	5.3586
Korah Non-Users	53	-1.8679	5.6468

Table 4.34

Analysis of Variance for Pre- and Post CDI gains on Part 4  
(Career Development Information) for the Korah Treatment  
and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	91.2434	2	45.6217	1.1105	.5295
Within Groups	6408.7566	156	41.0818		
Total	6500.0000	159			

Group	N	M	SD
Korah Treatment	85	-1.8471	6.1150
Korah Users	21	-3.6190	6.3283
Korah Non-Users	53	-3.1509	6.8875

Table 4.35

Analysis of Variance for Pre- and Post CDI gains on Part 5  
(World of Work Information) for the Korah Treatment and  
Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	27.7027	2	13.8514	0.4948	.8037
Within Groups	4366.6973	156	27.9916		
Total	4394.4000	159			

Group	N	M	SD
Korah Treatment	85	-1.5529	5.0604
Korah Users	21	-2.6667	5.8595
Korah Non-Users	53	-1.4340	5.4226



Table 4.36

Analysis of Variance for Pre- and Post CDI gains on Part 6  
 (Information about Preferred Occupation) for the Korah  
 Treatment and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	11.3667	2	5.6834	0.1936	.9427
Within Groups	4580.5333	156	29.3624		
Total	4591.9000	159			

Group	N	M	SD
Korah Treatment	85	.1647	5.6691
Korah Users	21	.3810	4.0801
Korah Non-Users	53	-.3396	5.4559

Table 4.37

Analysis of Variance for Pre- and Post CDI gains on Part 7  
(Combined Attitudinal, Parts 1 & 2) for the Korah Treatment  
and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	53169.7979	2	26584.8990	8.5984	.0010*
Within Groups	.482E+06	156	3091.8524		
Total	.535E+06	159			

Group	N	M	SD
Korah Treatment	85	42.8353	52.4740
Korah Users	21	26.0000	64.4826
Korah Non-Users	53	2.7736	56.8184

\* Significant <.05

Table 4.38

Analysis of Variance for Pre- and Post CDI gains on Part 8  
(Combined Cognitive, Parts 3, 4, 5, 6) for the Korah Treatment and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	545.7252	2	272.8626	1.0232	.5642
Within Groups	41600.1748	156	266.6678		
Total	42145.9000	519			

Group	N	M	SD	
Korah Treatment	85	-2.8824	15.1669	
Korah Users	21	-7.1905	16.8066	-
Korah Non-Users	53	-6.1887	17.8822	

Table 4.39

Analysis of Variance for Pre- and Post CDI gains on Part 9  
(Total Vocational Maturity, Parts 1-6) for the Korah Treat-  
ment and Korah Control Groups.

Gains					
Sources of Variance	Sum of Squares	df	Mean Squares	F	p
Between Groups	67647.5525	2	33823.7763	9.8930	.0003*
Within Groups	.533E+06	156	3418.9604		
Total	.601E+06	159			

Group	N	M	SD
Korah Treatment	85	41.2471	57.1343
Korah Users	21	13.5714	56.9189
Korah Non-Users	53	-3.4151	61.1365

\* Significant <.05

### Summary of Assessment of Main Treatment Effects

Some findings showed support for the main question. Analysis of variance procedures indicated that significant gains were made for the 3 attitudinal scores (Parts 1, 2 and 7) and in the total vocational maturity scores (Part 9) of the Career Development Inventory. Parts 3, 4, 5, 6 and 8 of the CDI did not show significant gains. Means on these latter scores were actually in the negative direction. Thus the question asked at the beginning of this section (Was the experimental treatment effective in enhancing vocational maturity?) must be answered in a qualified manner. Table 4.41 summarizes these findings (p. 89-90).

Chapter V will include a discussion of the implications of these findings in terms of difference scores (pre and post) and their impact on the main question of the study.

Table 4.41

Summary of Significant Relationships and Those Judged to be Significant for Section 1 of Chapter IV: Assessment of Treatment Effects.

Variable and Stage Being Tested	Found in Tables	p	Was It Significant?
ANOVA for Experimental Groups Part 1 (Extent of Planning)	4.11 + 4.21 + 4.31	<.05	Yes--Significance shown on Pre to Post test as well as Analysis of Difference ANOVA
ANOVA for Experimental Groups Part 2 (Use and Evaluation of Resources in Exploration)	4.12 + 4.22 + 4.32	<.05	Yes--Significance shown on Pre to Post test as well as Analysis of Difference ANOVA
ANOVA for Experimental Groups Part 3 (Career Decision-Making)	4.13 + 4.23 + 4.33	<.05	Yes--Significance shown on Pre to Post test as well as .10 significance on Analysis of Difference ANOVA
ANOVA for Experimental Groups Part 4 (Career Development Information)	4.14 + 4.24 + 4.34		No--Analysis of Difference ANOVA showed no significance Pre to Post
ANOVA for Experimental Groups Part 5 (World of Work Information)	4.15 + 4.25 + 4.35		No--Analysis of Difference ANOVA showed no significance Pre to Post

Table 4.41 - continued

ANOVA for Experimental Groups Part 6 (Information about Preferred Occupation)	4.16 + 4.26 + 4.36		No--Analysis of Difference ANOVA showed no signifi- cant Pre to Post
ANOVA for Experimental Groups Part 7 (Combined At- titudinal Parts 1 & 2)	4.17 + 4.27 + 4.37	<.05	Yes--Significance shown on Pre to Post test as well as Analysis of Difference ANOVA
ANOVA for Experimental Groups Part 8 (Combined Cog- nitive Parts 3, 4, 5, & 6)	4.18 + 4.28 + 4.38		No--Analysis of Dif- ference ANOVA showed no significance Pre to Post
ANOVA for Experimental Groups Part 9 (Total Vocation- al Maturity Parts 1, 2, 3, 4, 5 & 6)	4.19 + 4.29 + 4.39	<.05	Yes--Significance shown on Pre to Post test as well as Analysis of Dif- ference ANOVA

### Summary of Assessment of Program Elements

In order to provide information which would help evaluate specific aspects of the Korah Collegiate Group Career Counseling Program itself, questionnaires (see Appendix A) were administered to students, parents and the counselors in the program. These questionnaires were related to six specific questions about the program.

1. Will students, parents and counselors feel that the administration and interpretation of certain standardized tests of aptitudes; interests and values helps students trying to choose a career?
2. Will students, parents and counselors feel that the experience of a personal interview with a person in a preferred occupation helps students trying to choose a career?
3. Will students, parents and counselors feel that the experience of a day of observation in a preferred work place helps students trying to choose a career?
4. Will students, parents and counselors feel that reading and discussion of three monographs about a preferred occupation helps students trying to choose a career?



5. Will students, parents and counselors feel that involving parents in a career information-sharing seminar helps students trying to choose a career?

6. Will students, parents and counselors feel that a group session designed to integrate self-awareness and environmental exploration activities helps students trying to choose a career?

The results of this analysis procedure for the student responses are reported in table form (Table 4.42). The indications from these questionnaires are that the students viewed the separate elements of the program quite positively. The battery of tests and their interpretation, the personal interviews and the observation days gained the most support. Questionnaires were also given to parents and to the participating counselors (see Appendix A). These data are recorded (Appendices C and D) and discussed in Chapter V under conclusions.

Table 4.42

Frequency Distribution of Treatment Group Responses to  
Questionnaires as Related to the Program Questions.

Program Question 1 (Questionnaire responses) #2 (a) & 2 (b)	Frequency	Relative Frequency (Pct)
Considerable	24	41.4
Some	21	36.2
Can't say	5	8.6
A little	8	13.8
None	<u>0</u>	<u>0.0</u>
	58*	100.0
Program Question 2		
(Questionnaire responses) #2 (e)		
Considerable	29	50.0
Some	8	13.8
Can't say	5	8.6
A little	8	13.8
None	<u>8</u>	<u>13.8</u>
	58	100.0
Program Question 3		
(Questionnaire responses) #2 (f)		
Considerable	36	62.1
Some	9	15.5
Can't say	4	6.9
A little	4	6.9
None	<u>5</u>	<u>8.6</u>
	58	100.0

Table 4.42 - continued

## Program Question 4

(Questionnaire responses)  
#2 (c)

Considerable	13	22.4
Some	24	41.4
Can't say	7	12.1
A little	10	17.2
None	4	6.9
	<u>58</u>	<u>100.0</u>

## Program Question 5

(Questionnaire responses)  
#2 (g)

Considerable	9	15.5
Some	18	31.0
Can't say	15	25.9
A little	8	13.8
None	8	13.8
	<u>58</u>	<u>100.0</u>

## Program Question 6

(Questionnaire responses)  
#2 (h)

Considerable	10	17.3
Some	24	41.4
Can't say	9	15.5
A little	9	15.5
None	6	10.3
	<u>58</u>	<u>100.0</u>

\* Based on 58 returned questionnaires or a 68% return rate.

NOTE: Questionnaires were given to parents and to the counselors (See Appendix A). These data are discussed in Chapter 5 under Conclusions.

### Summary of Findings

Two sections were presented in Chapter IV. The first section dealt with an assessment of Treatment Effects as related to the main question of the study. The second section dealt with a supplementary analysis of student, parent and counselor opinions regarding certain activities within the Korah Collegiate Group Career Counseling Program.

Considerable support for an affirmative answer to the main question was found in the first section. In the pre-post-test analysis of variance, statistically significant differences were found for all factors of vocational maturity (Parts 1 to 9). However, in the case of Part 5 a significant difference has existed at pre-testing.

In the gains score analysis of variance procedure, significant gains were found for Parts 1, 2, 7 and 9. Parts 1, 2 and 7 represent the attitudinal factors on the CDI. Therefore, attitudinal factors showed significant differences on both analysis of variance procedures. Part 9 is the total

vocational maturity score (Parts 1 to 6) and significant differences on both analysis of variance procedures were indicated. Therefore, attitudinal factors (Parts 1, 2 and 7), one cognitive factor (Part 3), and total vocational maturity (Part 9) received the most support in the statistical procedures used.

Parts 4, 5 and 6 represent the majority of cognitive factors in vocational maturity. They reached significance in the pre-post-test analysis of variance procedure but did not reach significance on the gains score analysis of variance procedure. Similarly, Part 8, which is a total for the cognitive factors consisting of Parts 3, 4, 5 and 6, reached significance in the pre-post-test analysis of variance procedure but not in the gains score analysis of variance procedure. Thus, the analysis of variance procedures indicated the cognitive factors did not gain as much as attitudinal factors and total vocational maturity in the study.

Analysis of the data regarding six related questions indicated general support for the program with some phases (the use of standardized tests, personal interviews and observation days) showing more widespread support among the respondents from the treatment group. Chapter V contains a more detailed analysis of these findings.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

#### Introduction

This study was conducted to investigate whether an experimental career counseling program, the Korah Collegiate Group Career Counseling Program, was effective at increasing the vocational maturity of senior secondary school students. The specific features of the program were intended to enhance vocational maturity primarily through activities designed to increase self-awareness and knowledge about working conditions on the job. In this chapter, there will be a summary of the study and its findings, a section on recommendations for further research and a final section in which the implications of the study are discussed.

#### Summary

In Chapter I, the first topic focused on the problem that was the impetus for the present investigation. Attention was given to the historical factors involved in vocational development theories. The origin of the concept of vocational

maturity was discussed. The specific problem of investigating the effectiveness of the Korah Collegiate Group Career Counseling Program was presented. Need for the study and its potential significance were discussed in terms of present trends in education. The main question was presented. This question asked:

Will the treatment group  
in the Korah Collegiate  
Group Career Counseling  
Program gain in vocational  
maturity more than any of the  
control groups in the study?

In addition, 6 program questions were posed to help assess the effectiveness of various aspects of the program. These program questions asked:

1. Will students, parents and counselors feel that the administration and interpretation of certain standardized tests of aptitudes, interests and values helps students trying to choose a career?
2. Will students, parents and counselors feel that the experience of a personal interview with a person in a preferred occupation helps students trying to choose a career?
3. Will students, parents and counselors feel that the experience of a day of observation in a preferred work place helps students trying to choose a career?
4. Will students, parents and counselors feel that reading-- discussing three monographs about a preferred occupation helps students trying to choose a career?

5. Will students, parents and counselors feel that involving parents in a career information-sharing seminar helps students trying to choose a career?

6. Will students, parents and counselors feel that a group session designed to integrate self-awareness and environmental exploration activities helps students trying to choose a career?

Theoretical dimensions were considered in terms of assumptions and definitions. The known limitations and delimitations of the study were also presented.

Chapter II provided a review of the pertinent literature. Literature focusing on the developmental nature of career selection was dealt with first. Secondly, literature on the development of tests of vocational maturity was discussed. The third section of this chapter dealt with intervention studies and their results. This section encompassed a number of studies which focused on different approaches to the many factors involved in vocational maturity.

The specific procedures of the study were described in Chapter III. A full description was given of the program. The major instrument, the Career Development Inventory was outlined. The sample and the design were discussed in detail. The main question and the 6 program questions were stated. A description of the statistical procedure to be used for analysis of the main



question, that is, analysis of variance was given. Reference was made to the questionnaires used for analyzing the 6 program questions.

Chapter IV dealt with an analysis of the data. The analysis indicated that the main question did receive affirmative support, especially with the attitudinal factors of vocational maturity and total vocational maturity. Vocational maturity is enhanced by career counseling program experiences. When the difference (gains) scores on the Career Development Inventory were examined, significant differences existed on all the attitudinal scales (Parts 1, 2 and 7) and in terms of total vocational maturity (Part 9).

The questionnaires revealed that various phases of the program received strong support from the responding members of the treatment group. The phases that they evaluated as having the most influence on their career planning were: the observation days, the personal interviews, the tests of aptitudes, interests and values including the interpretation of these instruments. The following section deals with these findings in more detail.

### Summary of Significant Findings

Statistically significant differences were found for all factors of vocational maturity (Parts 1 to 9) in the pre-post-test analysis of variance. However, a significant difference on Part 5 had existed at pre-testing.

In the gains score analysis of variance, significant gains were found for Parts 1, 2, 7 and 9. Parts 1, 2 and 7 represented the attitudinal factors on the CDI. Part 9 represented total vocational maturity. None of the other factors (Parts 3, 4, 5, 6 and 8) reached statistical significance.

### Conclusions

The purpose of this research was to determine whether the Korah Collegiate Group Career Counseling Program enhanced the vocational maturity of the treatment group. To help differentiate the impact of the treatment program, the control group was subdivided into users and non-users of the Guidance services available at Korah Collegiate. A post-hoc comparison group was also used to further analyze treatment effects. A grade 12 group from a vocational school was used for this purpose. The main question was formulated to investigate the in-

fluence of the program.

### Main Question Conclusions

The investigation of the main question as determined by an assessment of treatment effects, provided data which gave support to the positive influence of the program. This was tested by using the Career Development Inventory. A pre-post-test analysis of variance indicated significant differences on all 9 scores of the CDI for the treatment group. However, in the case of Part 5, a significant difference had existed at pre-test.

When an analysis of variance for gains was done, a somewhat different situation emerged. This analysis showed significant gains between the pre- and post-test scores for the three attitudinal scores (Parts 1, 2 and 7) and for the total vocational maturity scores (Part 9).

Parts 3, 4, 5, 6 and 8 (which comprise all of the cognitive scales) did not indicate significant gains. The reasons for this may have been due to the test situation at post-testing time. There were some indications of lower "commitment" levels to the test at that time. The possibility of "statistical regression" cannot be dismissed, either. A third consideration

is that the treatment may have caused confusion. This possibility is counter-balanced by the fact that the treatment group's negative mean scores (Parts 4, 5 and 8) tended to be less than the other group's losses. As well, in one case, Part 6, the mean score for the treatment group was in the positive direction--but not significantly.

The statistical analyses done show some affirmative support for the treatment program. The influence of the treatment program was consistently shown in both analyses for the three attitudinal scores (Parts 1, 2 and 7), one cognitive score (Part 3) and for total vocational maturity (Part 9).

#### Program Question Conclusions

The six program questions were designed to obtain knowledge about separate effects of the different phases of the program. It was not possible to link the program questions with the CDI scores. However, it was possible to link the program questions with the opinions of participants by questionnaires on the influence of the separate phases of the program. Perceptions by participants on the influence of the total program was also done through the questionnaires (Question 3, Student Questionnaire). There was a strong indication that they perceived the program as having either considerable or some influence on their

vocational maturity as approximately 79% of the respondents answered the question that way (see Appendix A).

All phases of the program were considered by the researcher to enhance vocational maturity. In terms of the responses to the questionnaires and their links to the 6 program questions (see Table 4.41) there was considerable positive support for all phases of the program. In two cases, Program Questions 1 and 3, approximately 77% of the respondents thought these phases were positively influential in their career planning. In three cases, Program Questions 2, 4 and 6, approximately 64% of the respondents thought these phases were positively influential in their career planning. In one case, Program Question 5, approximately 46% of the respondents thought this phase was positively influential in their career planning. Therefore, most phases of the program received considerable support, especially the standardized tests and their interpretations (Program Question 1) and the observation (experience) days (Program Question 3).

On the basis of the parent and counselor data (Appendix C and D) there was considerable support for the program. Parents favoured the personal interview and observation days phases of the program. The counselors favoured these same phases plus the use of the standardized tests and their interpretations as more

important parts of the program (see Summary of Questionnaire Data-Appendix A).

Therefore, it was concluded that the program's phases were generally perceived as helpful in enhancing vocational maturity. The participants perceived the standardized tests and their interpretations (Program Question 1), the personal interviews (Program Question 3) and the observation days (Program Question 4) as the more helpful phases of the Korah Collegiate Group Career Counseling Program.

#### Related Findings

An interesting technique of use in assessing vocational maturity data is that of gains by individual test scores. This technique has been suggested by Hilton (1974) as one of the most relevant for measuring success or failure of a program. Although this data has not been tested for statistical significance, relative frequencies (pct) are reported in Table 5.1.

Table 5.1

Frequency distribution of gain scores by individual total scores on the pre- to post-test CDI by Korah Treatment and combined Korah Control Groups.

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Gains by Individual Total Scores

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Group		Frequency	Relative Frequency (pct)
Korah Treatment	Gains	59	69.4
	Losses	25	29.4
	Same	<u>1</u>	<u>1.2</u>
		85	100.0
Korah Controls (Users & Non-Users)	Gains	35	47.3
	Losses	38	51.4
	Same	<u>1</u>	<u>1.3</u>
		74	100.0

Table 5.1 gives further support to the treatment program's success as 69.4% of the treatment group increased their total scores. Only 47.3% of the combined control groups had increased their total scores.

Data gathered from the questionnaires are included in Appendices A, B, C and D. Some of the more salient features of these data suggest that: 1) a majority of the treatment group thought that the program had at least some influence on their vocational maturity 2) there was not one individual who suggested that any of the test aspects, personal interviews or observation days be dropped from the program 3) responding parents were supportive of the program 4) all counselors thought the program was effective.

#### Recommendations for Program Changes

On the basis of data collected from the 3 questionnaires on possible program changes, the following recommendations are made. These recommendations were also influenced by a post program discussion with the three counselors involved.

1. The program should be compressed into a 3-week period.
2. Existing classroom groupings should be used for group discussions.
3. The career monograph phase should be revised so that its purpose is better understood.
4. The parent information sharing seminar should be held earlier in the program.



5. The CDI data should be incorporated into the program as a group discussion topic. This should take place prior to personal interviews and observation days, so that students are more aware of their attitudes and knowledge about occupational choices.

#### Recommendations for Further Research

1. Studies that deal with only one of the variables involved in vocational maturity should be attempted. For example, a study on career decision-making principles (Part 3 of the CDI) would increase our understanding of how students make these choices.
2. A study that would sample students from a different grade level would be worthwhile. A good possibility would be a study of grade 11 students.
3. An investigation on the influence of counselors in such programs would be a worthwhile endeavour. This study would help in determining the counselor's role in the process of vocational maturity.
4. Conducting a replication study in another collegiate would be useful in determining the generalizability of the program's results.
5. Because the attitudinal scales were most influenced by the program, a study on the attitudinal factors alone may prove worthwhile.

6. A study that dealt only with an experiential approach would provide further data on the influences of experiences. Therefore, a program which dealt with the influence of personal interviews deserves investigation.
7. There is a need to more clearly examine the role of parents in the development of vocational maturity.
8. A study of the cognitive factors, particularly the factors involved in Part 6 (Information about Preferred Occupation) would be a worthwhile contribution.

#### Discussion and Implications

Vocational maturity is a complex concept. This research was designed to intervene into the process of developing vocational maturity. The results indicated that in the Korah Collegiate Group Career Counseling Program positive gains were likely to occur in total vocational maturity as well as on the attitudinal scales. The importance of attitudes, particularly informed planfulness, has been cited earlier (Chapter II). Research results (Goodson, 1969), (Hamdani, 1974) and (Corbin, 1974) all indicated that interventions were useful in increasing planfulness.

Interventions have been of many kinds and have had varying

results. Many career counseling programs have had mixed results. The present study showed that attitudinal factors and total vocational maturity increased most. Thus it supports earlier findings that interventions can make positive changes in vocational maturity. However, there is need to further clarify which approaches bring the best results.

This study differentiated between "users" and "non-users" of Guidance services within the control group. The purpose of this differentiation had been to safeguard for a sampling bias which could have influenced the statistical analyses. Generally the Korah "users" control group scored higher on most scales of the CDI in the post-test situation than did the "non-users" group. Neither group scored as high as the treatment group on most scales of the CDI in the post-test situation. The indication was that "users" of Guidance services generally tended to enhance vocational maturity more than "non-users" but not as much as those who participated in the program. The use of Guidance services appeared to benefit students in search of career choices but the Korah Collegiate Group Career Counseling Program tended to benefit students more.

The post-hoc comparison with grade 12 students at Alexander Henry High School indicated that these students scored lower on all scales of the CDI when compared with either treatment or

the control groups. The one exception was Part 1 (Extent of Planning) when the means for the Alexander Henry group was slightly higher than the Korah "non-users" group but lower than the Korah "users" and the treatment group means. The Alexander Henry students were generally less vocationally mature than the Korah treatment and control groups despite the orientation of their secondary school program.

It had been suggested by others (Dennis, 1977) that more direct teaching methods, developed to deal with the various components of vocational maturity, are required. This position appears to have merit. The present study indicated that cognitive scores were least affected. Direct intervention strategies with these cognitive factors should be considered.

The evaluation done by the participating students suggested that the components of the program they found most worthwhile were the standardized tests and their interpretations, the personal interviews and the observation days. The counselors also thought that these components were the most beneficial. Attention had been given in other research to increased self-awareness through exposure to tests. Christen (1973) and then later Zytowski (1977) found this to be the case. The present study's findings give further reason to pursue this component of the vocational maturity process.

The research literature does not often cite personal interviews and observation days as components of programs. However, there has been a recent trend toward experience-based programs, for example, Carey and Weber's study (1979). This trend may produce better insights as to how we can provide relevant experiences for today's students who are faced with a bewildering number of career possibilities.

#### Reflections Upon the Study

The analysis of the data raised some questions as to why the cognitive factors were least affected by the program. Although a definitive answer does not seem possible, the use of the CDI must be considered. This instrument appears to cover the various components of vocational maturity very well. However, the length of administration for the test (90 minutes, approximately) may be excessive. As a result, the students doing the test appeared to be less able to concentrate on the latter sections of the test. This was more apparent at post-test time, although it was also evident with the post-hoc comparison group. The cognitive factors comprise the last four parts of the CDI and this fact may explain some of the negative means found in the gains score analysis of variance results.

In retrospect, the length of the program--6 weeks, may also have been excessive. All the counselors involved felt the program should use a shortened time span. They indicated that this change would heighten the impact of the program for the students. They also thought a shorter time span for the program would enable them to carry out their total responsibilities to Guidance services more effectively.

An interesting suggestion put forth by the counselors was to use classroom groupings for future programs. Advantages of convenience for program activities and less disruption for teachers, were cited as reasons. The possibility of students knowing each other and thus facilitating interaction in the group sessions was another reason given by the counselors for classroom groupings.

Upon reflection, the parent information-sharing seminar should have been held earlier in the program to increase their understanding of the program. Alternative types of meetings, for example, coffee-hour meetings, may also have increased the number of parents involved. A number of factors were involved in a total explanation of the parent participation. The timing of the seminar has been mentioned but there were indications that the percentage of parents involved was actually higher than found at a Korah Collegiate parents' night. A further

factor may have been indicated by questionnaire comments that some students were not interested in having their parents attend the seminar.

As might be expected, the results of the post-hoc comparison with grade 12 students in a separate vocational school were puzzling. The fact that this school is primarily for slow learners could be a factor in their lower scores. The emphasis of their secondary school program on vocational preparation could also have influenced the outcome.

**APPENDIX A**



APPENDIX A(i)

FOUR ASSOCIATE GROUP CAREER COUNSELING PROGRAM  
STUDENT QUESTIONNAIRE

The purpose of this questionnaire is to try and determine the effectiveness of the program. We need your views on all phases of the program. Please indicate one of the five choices for each of the following questions:

- 1. How much influence did the program have on your career planning?  
 Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

- 2. How much influence did the following parts of the program have on your career plans?

a) the interests, aptitudes and values tests

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

b) the test interpretations by counselors

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

c) the career monographs

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

d) the group discussion of monographs

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

e) the personal interview

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

f) the experience day

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

g) discussions with your parents after the seminar

- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_

APPENDIX A(1)  
STUDENT EVALUATION - 1968/69

2. b) the "wrap-up" session with a counselor
- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_
3. How much influence did the program have on your vocational maturity?
- Considerable \_\_\_\_\_ Can't say \_\_\_\_\_ None \_\_\_\_\_  
 Some \_\_\_\_\_ A little \_\_\_\_\_
4. What parts of the program would you like to see changed or dropped from the program?  
 (Please indicate whether it's a change or ending a part of the program)
- a) the tests of interests, aptitudes, values and their interpretations given by a counselor
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
- b) the readings of articles about a chosen occupation and the discussions of these with a counselor
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
- c) the interview with a person in a chosen occupation
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
- d) the experience day in a chosen occupation
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
- e) the information seminar for parents
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
- f) the "wrap-up" session with a counselor
- CHANGE \_\_\_\_\_ DROP \_\_\_\_\_
5. Please describe any changes or suggestions about the program that you would like to see happen.

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NAME: \_\_\_\_\_

APPENDIX A(ii)  
KOPAH COLLEGIATE GROUP CAREER COUNSELING PROGRAM  
PARENT QUESTIONNAIRE

The purpose of this questionnaire is to help determine the effectiveness of the program. We need your views on the program to do this. Please fill in your answers and return the questionnaire in the envelope provided.

Questions

- 1. How much influence do you think the program had on your son's/daughter's career planning?

Check one:

- (a) A good deal of influence \_\_\_\_\_
- (b) Some influence \_\_\_\_\_
- (c) Can't determine influence \_\_\_\_\_
- (d) No influence \_\_\_\_\_

- 2. Do you think that the program was completely effective?

Check one:

- (a) Yes \_\_\_\_\_
- (b) No \_\_\_\_\_

- 3. If there were parts of the program that you think made greater contributions to your son's/daughter's career planning, please indicate.

- (a) the tests of interests, aptitudes, values and their interpretations given by a counselor \_\_\_\_\_
- (b) the readings of articles about a chosen occupation and the discussions of these with a counselor \_\_\_\_\_
- (c) the interview with a person in a chosen occupation \_\_\_\_\_
- (d) the experience day in a chosen occupation \_\_\_\_\_
- (e) the information seminar for parents \_\_\_\_\_
- (f) the "wrap-up" session with a counselor \_\_\_\_\_

- 4. Was the information seminar for parents of value to you in helping with your son's/daughter's career planning?

Check one:

- (a) Yes \_\_\_\_\_
- (b) No \_\_\_\_\_

- 5. What parts of the program would you like to see changed or dropped from the program?

(Please indicate whether it's a change or ending a part of the program)

- (a) the tests of interests, aptitudes, values and their interpretations given by a counselor

CHANGE DROP

APPENDIX A(ii)  
PROGRAM QUESTIONNAIRE - continued

- 5. (b) the readings of articles about a chosen occupation  
and the discussions of these with a counselor  
CHANGE DROP
- (c) the interview with a person in a chosen occupation  
CHANGE DROP
- (d) the experience day in a chosen occupation  
CHANGE DROP
- (e) the information seminar for parents  
CHANGE DROP
- (f) the "wrap-up" session with a counselor  
CHANGE DROP

6. Please give any changes or suggestions about the program  
that you would like to see happen in the spaces below:

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Thank you.

Please fill in your name and address.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

APPENDIX A(iii)

WASH STATE UNIV CAREER CENTER STUDENT EVALUATION  
COUNSELOR QUESTIONNAIRE

The purpose of this questionnaire is to assess the effectiveness of the program as you see it.

Questions

1. Do you think that the entire program was effective?

Check one:

Yes \_\_\_\_\_

No \_\_\_\_\_

2. If there were parts of the program that you think made greater contributions to the students' career planning, please indicate.

- (a) the tests of interests, aptitudes, values and their interpretations given by a counselor \_\_\_\_\_
- (b) the readings of articles about a chosen occupation and the discussions of these with a counselor \_\_\_\_\_
- (c) the interview with a person in a chosen occupation \_\_\_\_\_
- (d) the experience day in a chosen occupation \_\_\_\_\_
- (e) the information seminar with a counselor \_\_\_\_\_
- (f) the "wrap-up" session with a counselor \_\_\_\_\_

3. If you selected one or more parts of the program in Question 2 briefly state your reasons for these choices.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What parts of the program would you like to see changed or dropped from the program?  
(Please indicate whether it's a change or ending a part of the program)

- (a) the tests of interests, aptitudes, values and their interpretations given by a counselor  
Change \_\_\_\_\_ Drop \_\_\_\_\_
- (b) the readings of articles about a chosen occupation and the discussions of these with a counselor  
Change \_\_\_\_\_ Drop \_\_\_\_\_
- (c) the interview with a person in a chosen occupation  
Change \_\_\_\_\_ Drop \_\_\_\_\_
- (d) the experience day in a chosen occupation  
Change \_\_\_\_\_ Drop \_\_\_\_\_

Con't...../2

APPENDIX A(iii)  
INSTRUCTIONS - continued

4. (a) the information seminar for parents  
Change \_\_\_\_\_ Drop \_\_\_\_\_

(b) the "wrap-up" session with a counselor  
Change \_\_\_\_\_ Drop \_\_\_\_\_

5. Briefly describe your reasons for changes or drops from the program as selected in Question 4.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Please discuss any other changes you would like to see in the program.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_

Thank you.

APPENDIX A(iv)

views had considerable or some influence on their career planning.

Question 2

(f) - dealt with the observation (experience) days.

Approximately 77% of the responding students thought that the observation days had either considerable or some influence on their career planning.

Question 2

(g) - dealt with the parent seminar's results. Approximately 46% of the responding students thought that the post seminar discussions had considerable or some influence on their career planning.

Question 2

(h) - dealt with the "wrap-up" sessions. Approximately 58% of the responding students thought that the "wrap-up" sessions had considerable or some influence on their career planning.

Question 3 - dealt with a direct question on vocational maturity.

Approximately 79% of the responding students thought the program had considerable or some influence on their vocational maturity.

Question 4 - dealt with changes or drops in program. Most students did not want changes in all phases--approximately only

APPENDIX A(iv)

20% of the responding students. Some students wanted the parent seminar and "wrap-up" sessions dropped.

Parent Questionnaire

Question 1 - Most responding parents thought the program had a good deal or some influence on the career planning of their sons or daughters.

Question 3 - Most responding parents thought the personal interviews and observation days were of more use to the students.

Question 4 - There was some support for the parent information seminar.

Question 5 - Most phases had some parents indicating they wanted change, but only one phase, the "wrap-up" session, had an indication of dropping the program.

Counselor Questionnaire

Question 1 - All counselors saw the program as effective.

Question 2 - All counselors thought the standardized tests, personal interviews and observation (experience)



APPENDIX A (iv)

days were more important phases of the program.

Question 4 - Changes were requested in the career monograph, parent seminar and "wrap-up" sessions.

Appendix A(v)

Student responses to Student Questionnaire. Frequency distribution

Question	Responses	frequency	relative frequency
1	Considerable	28	48.3
	Some	21	36.2
	Can't say	4	6.9
	A little	5	8.6
	None	<u>0</u>	<u>0.0</u>
		58	100.0
2 (a)	Considerable	20	34.5
	Some	22	37.9
	Can't say	5	8.6
	A little	11	19.0
	None	<u>0</u>	<u>0.0</u>
		58	100.0
(b)	Considerable	16	27.6
	Some	28	48.3
	Can't say	6	10.3
	A little	6	10.3
	None	<u>2</u>	<u>3.5</u>
		58	100.0
(c)	Considerable	13	22.4
	Some	24	41.4
	Can't say	7	12.1
	A little	10	17.2
	None	<u>4</u>	<u>6.9</u>
		58	100.0
(d)	Considerable	8	13.8
	Some	26	44.8
	Can't say	9	15.5
	A little	11	19.0
	None	<u>4</u>	<u>6.9</u>
		58	100.0
(e)	Considerable	29	50.0
	Some	8	13.8
	Can't say	5	8.6
	A little	8	13.8
	None	<u>8</u>	<u>13.8</u>
		58	100.0

## Appendix A(v) continued

Question	Responses	frequency	relative frequency
2 (f)	Considerable	36	62.1
	Some	9	15.5
	Can't say	4	6.9
	A little	4	6.9
	None	<u>5</u>	<u>8.6</u>
		58	100.0
(g)	Considerable	9	15.5
	Some	18	31.0
	Can't say	15	25.9
	A little	8	13.8
	None	<u>8</u>	<u>13.8</u>
		58	100.0
(h)	Considerable	10	17.2
	Some	24	41.4
	Can't say	9	15.5
	A little	9	15.5
	None	<u>6</u>	<u>10.3</u>
		58	100.0
3	Considerable	18	31.0
	Some	28	48.3
	Can't say	4	6.9
	A little	8	13.8
	None	<u>0</u>	<u>0.0</u>
		58	100.0
4 (a)	Change	12	20.7
	Drop	0	0.0
(b)	Change	10	17.2
	Drop	2	3.4
(c)	Change	9	15.5
	Drop	0	0.0
(d)	Change	12	20.0
	Drop	0	0.0
(e)	Change	8	13.8
	Drop	7	12.0
(f)	Change	8	13.8
	Drop	3	5.2

APPENDIX A (VI)

CAREER DEVELOPMENT INVENTORY

Junior and Senior High School Form III, Modular

David J. Forrest      Donald E. Super      Roger A. Myers  
Jean Pierre Jordaan   Richard H. Lindeman   Albert S. Thompson

Form III is a 191-item instrument yielding six scale scores.

Part 1. Extent of Planning (30 items)

This scale assesses planfulness by obtaining self-reports on the amount of time spent on career planning by comparing themselves to their peers.

Part 2. Use and Evaluation of Resources in Exploration (30 items)

This scale assesses willingness to use the resources available for career exploration. It also requires judgments on how useful these resources are likely to be.

Part 3. Career Decision Making (30 items)

This scale seeks to measure knowledge and application of career decision making principles. It consists of items on these principles and other items of cases dealing with these principles.

Part 4. Career Development Information (30 items)

This scale tests career development information. The questions concern the need for and processes of exploration and establishment during adolescence and early adulthood.

Part 5. World of Work Information (30 items)

This scale tests knowledge of the world of work. The questions concern information about classifications of occupations, types and amounts of training needed, tools and equipment used and employment practices.

Part 6. Information about Preferred Occupation  
(41 items)

This scale measures knowledge of the occupational group or cluster of greatest interest to the student. The questions deal with such aspects of occupations as education and training requirements, nature of work, physical demands, personal characteristics related to success and satisfaction, economic characteristics, etc. The items are written so that each question is pertinent to any occupation.

**APPENDIX B**

APPENDIX B(i)

Name \_\_\_\_\_

Monographs Assignment

By Wednesday, October 10 you must obtain an S.G.I.S. printout and read 2 other articles related to the Occupational Group you chose on the Career Development Inventory.

Your Occupational Group was \_\_\_\_\_.

Your Choice of Occupation was \_\_\_\_\_.

Next week there will be a group session based on your reading. It will include a questionnaire of related material. \_\_\_\_\_

Name \_\_\_\_\_

QUESTIONNAIRE ON MONOGRAPH READINGS

1. List the sources you used:

S.G.I.S. - Occupation \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

2. What specific information did you obtain from your reading on the following?

A. the educational requirements \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B. the duties involved \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

C. additional benefits offered \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What are the supply-demand conditions for people now choosing that occupation?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What are the 5 year projections for supply-demand conditions in your chosen occupation?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



5. What are the opportunities for advancement in your chosen occupation?

\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

6. Whom have you discussed your occupational choice with?

Parents \_\_\_\_\_

Friends \_\_\_\_\_

Professionals \_\_\_\_\_

Others \_\_\_\_\_

7. What would you do if an unforeseen obstacle developed regarding your occupational choice?

(a) use all my resources to overcome the obstacle (eg. pick up required courses) \_\_\_\_\_

(b) weigh the possibilities of another career choice and begin plans to go in that direction \_\_\_\_\_

(c) not worry about it and see what happens \_\_\_\_\_

8. List any questions that developed from your reading about your occupational choice.

APPENDIX B(iii)

MONOGRAPH GROUP SESSION KCGCCP

1. Small Group Interaction (8 to 10)

Purpose: To initiate group communication

Method: Choose group on basis that they know each other well

Get each member to state their occupational choice

Then get group members to state occupation others are: 1. best suited for  
2. least suited for

Leader can then ask questions of total group about wisdom of choices, accuracy of self and others perceptions

Leader can then ask questions on how their reading influenced their choices, which will lead into Part 2 of the session.

2. Questionnaire (8 questions)

Purposes: To validate reading assignment

To use in evaluating program

To consolidate learning about occupational choice

Method: Distribute and give 5 to 7 minutes to complete

Gather questionnaires in leading to Part 3

APPENDIX B(iii)

## 3. Discussion of Questionnaires (4 or 5)

Purposes: To facilitate group interaction

To consolidate knowledge

Method: Leader randomly selects 4 or 5 questionnaires  
and poses questions to group

eg: (a) Why are 5 year projections important?

(b) In question 7(c) why do people  
confront obstacles this way?

(c) It seems friends are favourite persons  
to discuss career choices with, why?

\*\* This is meant as guideline only for Monograph Sessions.

APPENDIX B(iv)

TEST INTERPRETATION SESSION

1. Overview: Tests in perspective (objective guides)
  - Norms
  - Validity and reliability
  - Dangers of misinterpretation
  
2. Specific Tests:
  - D.A.T. - Aptitudes as specific abilities
    - A predictive capacity for certain types of learning
    - Real differences (top 40%)
    - Relationships aptitudes to careers
  
  - S.C.I.I. - Holland's model of interests
    - RIASEC
    - Basic interests-specific occupations
    - Highs and lows
    - A.O.R.
  
  - S of V - View on values (6) TEASPR
    - Role of values
  
3. Example: for interpretation
  
4. Discrepancies: What can and should be done
  
5. Questions

APPENDIX B(v)

DEPARTMENT OF STUDENT SERVICES  
Education Centre  
644 Albert Street East  
Sault Ste. Marie, Ontario

1979 10 15

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear \_\_\_\_\_:

I am presently involved in work on a doctoral dissertation dealing with the vocational maturity of senior high school students and how counselors can aid that development.

The research involves a career counseling program with senior students at Korah C.&V.S. One aspect of the program is for the student to spend one day or an appropriate part of a day observing and/or being involved in the activities of a particular occupation. The occupation is the tentative choice for the student's own career. In addition to this, the student will carry out a half-hour interview with a person involved in that career which is their tentative choice. The students will be prepared for these interviews.

I earnestly solicit your cooperation in this research project by asking you to allow one or more students to visit your workplace for the purpose of observation, and/or involvement plus a half-hour interview. The intent is to place these students over the next 2 to 3 weeks. Therefore, a telephone call regarding this letter will be made shortly. The person making the call will be the undersigned contact counselor from Korah C.&V.S.

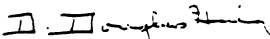
I sincerely hope that you will consider being involved in this research project. We see it as one way that the need for interaction between the community and the educational system can be strengthened.

DDE/ef

Names of interested students. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yours truly,

  
D. Douglas Haig, M.Ed.,  
Psychoeducational Consultant.

\_\_\_\_\_  
Contact Counselor Korah C.&V.S.

## APPENDIX B(vi)

Suggested questions for job interviews.

Remember: Even today potential employers are interested in promptness, appearance and politeness.

Job Content

- Will you describe the duties of the job for me.
- Where does your job fit into the organization?
- What characteristics do you think a person should possess to succeed in this job (profession)?
- What is the turnover rate of this job (i.e. do many people leave - why? promotion - move on - fired)
- How does the pay compare with other occupations in this area?
- How much supervision is there on this job?
- What kind of pressures and/or deadlines do you face with this job?
- What kind of a person would you look for if you had to hire someone for this kind of job?
- Describe your education. What parts of your education were particularly useful for this job.
- Are good marks in school really important for this job?
- Do you enjoy your work? What are the most satisfying things about your job? What things irritate you the most about your job?
- Have you had any crisis in your career?
- Do you think there is a reasonable minimum salary range that a new employee should receive for this job?
- Is it important to be concerned with fringe benefits when looking for a job?
- Are there any special physical or health requirements necessary for this job?
- How do you feel about working overtime?
- What will the demand be for this job in the near future?
- Are there good opportunities to specialize or advance in this job?
- Will this occupation change much in the near future?

APPENDIX B (vii)KORAH COLLEGIATE CAREER COUNSELLING PROGRAMPARENTAL SEMINARNOVEMBER 20, 1979

Guidelines: Informal discussion of the various phases of the program:  
tests  
reading  
interview - observation  
group sessions

Major concern - vocational maturity of these students

Purposes of seminar - above plus chance to ask questions, etc.

Wrap-Up Sessions: November 22, 1979

The sessions are intended to help the students integrate their experiences for further career development.

Use examples from the groups;  
Go through one or two examples;  
Open sessions to questions.

Do student questionnaires.

Remind them of POST-TEST; November 27

**APPENDIX C**



Appendix C

Parent responses to Parent Questionnaire. Frequency distribution.\*

Question	Responses	frequency
1	(a) Good deal	6
	(b) Some	11
	(c) Can't determine	1
	(d) None	2
2	Yes	16
	No	3
3	(a)	6
	(b)	2
	(c)	10
	(d)	13
	(e)	6
	(f)	4
4	Yes	8
	No	3
5 (a)	Change	3
	Drop	0
(b)	Change	3
	Drop	0
(c)	Change	2
	Drop	0
(d)	Change	5
	Drop	0
(e)	Change	3
	Drop	0
(f)	Change	3
	Drop	1

\* Based on 19 returned questionnaires.

**APPENDIX D**

Appendix D

## Counselor evaluations of Counselor Questionnaires. Frequency Distribution

Question	Response	Frequency	Relative Frequency (pct)
1	Yes	3	100.0
	No		
2 (a)		3	100.0
(b)		1	33.0
(c)		3	100.0
(d)		3	100.0
(e)		1	33.0
(f)		2	66.0
3 (verbal answers)			
4 (a)	Change	0	
	Drop	0	
(b)	Change	2	
	Drop	0	
(c)	Change	0	
	Drop	0	
(d)	Change	0	
	Drop	0	
(e)	Change	2	
	Drop	0	
(f)	Change	1	
	Drop	0	

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