AN INVESTIGATION OF THE EFFECTIVENESS OF SIGI-PLUS GROUP SESSIONS AS A CAREER GUIDANCE INSTRUMENT IN FRESHMAN CORE

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By:

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has been approved

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A Master's Research Project in Partial Fulfillment
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ABSTRACT

Research literature was reviewed concerning the need for career counseling in colleges and universities. A group career counseling program using the computer assisted career guidance tool SIGI-Plus as it exists in a freshman core class was investigated. The Career Maturity Inventory was used as pre and post tests given to three groups of college freshmen enrolled in a freshman core class. The groups included a group participating in group counseling and using the computer program as a tool, a group using only the computer program, and a control group. Only the students involved in group career counseling combined with the use of SIGI-Plus showed a significant gain in career maturity.

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BACKGROUND AND RATIONALE FOR STUDY

Introduction

Ottawa University, a liberal arts college, requires every student to take a core class during their freshman year. The title of the course is Writing: Vocation and Liberal Arts. One of its purposes is to help freshmen students learn how their liberal arts education can benefit them in the world of work.

The Career Center at Ottawa University recognizes the importance of career counseling in higher education. Many students need help choosing majors which lead to career choices that reflect their values, skills and interests. One of the instruments used by the Career Center to guide students toward their choice is a computer program developed by a team of researchers and specialists at Educational Testing Service (ETS). The program is called the System of Interactive Guidance and Information Plus (SIGI-Plus) (Educational Testing Service, 1985).

Studies have shown (Rounds & Tinsley 1984) that group counseling is as effective or even more effective than individual counseling. A little over two years ago, the Career Center used a group counseling model developed by Dr. Richard Pyle (1986) and designed a series of group

counseling sessions using SIGI-Plus as a career guidance tool around which the sessions are based. The groups have been very successful, but getting students to participate voluntarily is difficult. Through the suggestion of the Career Center staff, the group counseling program was incorporated into the freshman core classes in the fall of 1987. After one year of using the program, the University's administrative council, instructors, and Career Center were interested in discovering whether the program helped freshman students improve significantly in their ability to successfully choose a career.

The Need for Career Counseling Intervention

An extraordinary number of Americans are enrolled in two-year or four-year post-secondary schools. Approximately 60% of all high school graduates are entering college. (National Center for Educational Statistics, 1980). During the 1985-1986 school year, about 12,412,000 students were enrolled in higher education (Herr and Cramer, 1988). Some students are very mature career-wise and have the ability to choose a career that will be intrinsically satisfying. They have a high degree of self-knowledge and know what kind of a job will make them happy. However, many students begin their college education unprepared to face the

future or make major decisions concerning their life's work. Even though they are aware that a college education is important to their future careers, a large percentage of new college students do not know what to major in or what kind of occupation they want.

A study at the University of Georgia in 1982 revealed that career development needs were expressed by a greater percentage of students than either academic or personal needs. A questionnaire was given to 1625 students, both male and female. Over 80 percent of the students expressed a desire to explore job opportunities related to their majors and to obtain work experience in a career area; 77 percent desired to develop effective job-seeking skills; 72 percent wanted to learn how to prepare for their careers and more than 50 percent said they would like to explore career interests, values, and abilities. On the other hand, less than two-thirds of the students said they would like to learn more about time management, relief of speech anxiety, budgeting and self-confidence (personal needs) or study skills, test anxiety reduction, ease in class participation and effective library use (academic needs). This study shows that students desire help with career needs more often than they do with personal or academic needs (Weissberg et. al. 1982).

Importance of Career Maturity

Often undergraduates believe that the career planning process is an overwhelming series of tasks with no obvious starting point or steps along the way. They feel bewildered by the various possibilities and many have had personal experience with parents or relatives who have made poor career choices and are unhappy with their work life. People who have no problem making major decisions about where to live, who to marry, or where to go on vacation often don't make intelligent decisions about their careers. For some reason they assume that fate should choose their career. Many of them accept whatever job comes along first then follow it through without thought or planning, and find themselves "trapped" in a career that is less than satisfying.

It is understandable that students express anxiety about career decision-making. The current philosophy of career maturity and career development is fairly new. Before the 1950s the common view of career behavior involved an event which occurred upon high school graduation when a student analyzed the world of work and then decided what kind of job to look for. He/She seldom considered the consequences. It was assumed that career choice was more or less an isolated experience in the ongoing life activities of the individual, having little or no effect upon subsequent success and

satisfaction (Crites, 1978).

Ginzberg, Ginzberg, Axelrad, and Herma (1951) were among the first to observe that the choice of an occupation is a process, not simply a one-time event. Super (1955) elaborated upon this theory of career development and introduced the concept of career maturity to denote "the place reached in the continuum of vocational development from exploration to decline." (Ibid, p. 153).

Many universities have ignored the problem of helping students with career decision-making. In 1971 Ginzberg said:

> We have seen that the college setting is not a sympathetic environment for the provision of educational and career guidance. The presumption is that when students encounter problems in these areas the faculty is available to counsel them. But most faculty members know little about the work beyond academe. They are generally able to assist prospective graduate students, but often cannot help undergraduates who plan to enter the world of work." (p. 135)

Post-secondary schools are not part of the compulsory educational system in America so going to college involves a deliberate choice. Herr and Cramer (1988) suggest that people who choose to continue their education after high school fit into one of three categories: 1) The Self-Fulfillers, 2) The Careerists, and 3) The Avoiders. Students in each category will ultimately have a need for career guidance. The self-fulfiller will eventually realize that

although personal development and learning for learning's sake are indeed admirable goals, most people in our society must work. The careerist often discovers that an original career choice is inappropriate and looks for occupational alternatives. The avoider will eventually realize that it is impossible to procrastinate career choice forever (Herr and Cramer, 1988). Fortunately, career planning and placement programs are becoming more common in colleges and universities.

Group Career Counseling and Career Courses

Basically career planning and placement programs have used three major approaches to deliver career guidance which: (1) individual counseling; (2) workshops, courses, and seminars; and (3) group counseling (Herr and Cramer 1988). Most colleges and universities provide individual career counseling, but there are many reasons why group career counseling and career courses are more advantageous than individual counseling. Pyle (1985) sees the advantages of group counseling over individual counseling as follows: (1) interaction and input within the counseling session is greater because there are more participants; (2) participants are helped to accept their problems when they see that their peers have similar problems and needs; (3) it is more efficient because more than one person is seen at a time; and

(4) the possibility of developing a supporting network exists both during and after the actual session(s).

Pyle (1986) also stated that:

> The fact that one's peers are a major part of the group process can assist the individual with adjustment concerns. By hearing others' concerns and problems the tendency to see oneself as the only person with a career problem diminishes. Everyone has a need to feel their problems are not unique and that they share with others the frustrations and anxieties inherent in their humanness. The simple process of empathizing and sharing with one another is known to be very beneficial to life functioning as well as vocational functioning. Because of the participation of peers, such an outcome appears to be more likely in a group format than in an individual setting. (p.5)

Career counseling can be very complex. It is often necessary to have at least three sessions with a person to teach a particular concept. When offering the concept through a workshop format, it is difficult to convince students they need to come back for more than one session. Somehow they feel they have learned it all. Retention is generally higher within a group format than a workshop format. "There seems to be something about the personalization process which the small group provides that motivates students to return. This may say something about the need humans have for intimacy and relating to others within an environment where they feel comfortable and not fearful of being rejected." (Pyle, 1986, p. 7).

Career courses also allow students to interact with one another. Although there have been many discussions on the advantages of group career counseling as opposed to individual counseling, in 1986 Davis and Horne discovered that there had been no research comparing the relative effectiveness of small-group counseling and a career course. They used 102 students who had enrolled in an elective course, Career and Life Planning, at a small midwestern university. 88% of the students who participated indicated they had no college major. They used the pretest, treatment, post test design and two instruments in this study: The Career Decision Scale (CDS) developed by Osipow, Carney, and Barak and the attitude scale of the Career Maturity Inventory (CMI) developed by Crites (Davis and Horne, 1986).

On the first day of class all students completed the CDS and the CMI attitude scale then were randomly assigned to one of the two treatments; the career course or small-group career counseling. The course treatment continued throughout the semester and the groups lasted until midsemester (an average time span for group counseling) (Ibid).

At the end of the group counseling sessions and the course the students were given the same two measures as a post test. The researchers tested two null hypotheses. These were (1) that there would be no significant difference between the pretest-post test difference scores on the CDS

and (2) that there would be no significant difference between the pretest-post test difference scores on the CMI attitude scale for students in the course treatment and small group counseling treatment. The data were analyzed with a 2 x 2 repeated-measures analysis of variance (ANOVA) (Ibid).

The result of the study proved the null hypotheses; there was no significant difference between the two treatments. Davis and Horne (1986) state that the study "demonstrated that a career course is as effective in promoting decidedness and maturity as is small-group counseling, a well established and widely used treatment" (p. 261).

The rationale for group counseling and career courses can be summarized by Dinkmeyer and Muro's (1979) point that groups meet a variety of needs at one time. These include:

1. The need to belong, to find a place, and to be accepted as one is.

2. Affection needs--to be loved and to be able to provide love; the opportunity to have a therapeutic effect on others, in essence to be a part of the helping process while receiving assistance.

3. The opportunity to interact on meaningful developmental topics which are related to one's growth and development.

4. Help in seeing that one's problem is not unique.

5. The opportunity to develop feelings of equality and acceptance without feeling that one has to "prove" oneself to belong.

6. The need to work out one's identity as it relates to the various social and career tasks of life. (p. 11)

Group career counseling and career courses appear to be two valuable career intervention treatments. A career course which uses the components of the small-group process would apparently be very advantageous.

Computer Programs in Career Counseling

A tool which can aid career counselors whether they use group or individual counseling is the computer. However, innovation in any field often meets with resistance, anxiety, and fear (Kaplan, 1982). Pyle (1985) said:

> "the most long-standing use of computers by counselors has been for test scoring and analysis. In this case counselors see the computer as a remote "black box" that can magically transform a stack of carefully prepared test sheets into an even bigger stack of complex statistical output. Counselors have traditionally tended to distrust technology. Much has been written about our ability to place a person on the moon and our simultaneous inability to accomplish social goals. The value of the computer is well recognized as it becomes an integral part of our lives, but its arrival has created both interest and controversy within the counseling profession. It is safe to say that many counselors have resisted computers. The mechanistic nature of the computer and the counselors' nonmathematical orientation are no doubt factors in this resistance." (p. 147)

Computer-assisted career guidance (CACG) systems had their beginnings in the early 1960s, however it has been only within the last 15 years that they have become popular in high schools and colleges (Ibid).

Sampson (1984) reviewed the literature on computer assisted career guidance (CACG) systems and came to the following conclusions:

1. Clients react positively to the experience of using a CACG system.

2. Clients' knowledge of self and the world of work is expanded.

3. After using a CACG system, clients are more specific about their career and educational plans.

4. Clients have greater confidence in their Career decision-making ability.

5. After using a CACG system, clients seem to be more motivated to use additional career planning resources to assist them in making a decision. (p. 191)

The staff at the Career Center at the University of Texas-Austin have found a number of advantages to using the group counseling approach along with a CACG system:

1. The group provides an opportunity for the individual to understand the information within the broader perspective provided by his/her peers.

2. The computer provides the opportunity to access a large amount of information which is in need of processing.

3. Counselors who have used both the individual and group process approaches tend to enjoy the group approach more.

4. Students like the combination of the technology with a trained counselor and their peers to help them synthesize and make effective use of the great amount of data. The computer offers the counselor a tool that has the potential of enhancing the counseling process and facilitating human development" (Pyle, 1985 p. 148).

A research study at Pasadena City College evaluated the use of the CACG system, SIGI. Students who requested career guidance were randomly assigned to one of two groups. One group was a control group which received the traditional career guidance offered by the career center. The other was the experimental group who were assigned to spend an equal amount of time in career exploration using SIGI. Questionnaires were used to gather data for use in examining results. Chi square statistical tests were used to determine whether there was a significant difference in the stability of career choice for students in the two groups. Findings strongly indicated that SIGI students were better prepared to make appropriate decisions about their careers than those in the traditional program (Risser and Tulley, 1977).

Another study which was conducted by Pyle (1976) at Santa Fe Community College, Gainesville, FL "sought to determine what relationship a computer-assisted activity, the System of Interactive Guidance and Information (SIGI), would have to the developmental career maturity of students" (Pyle and Stripling, p. 72).

Pyle used 66 full-time students enrolled in a 3-hour course on career awareness. The instrument used was the Career Maturity Inventory and he used a nonequivalent control group design. In order to equate the experimental and control groups, an analysis of covarieance was used.

Students were required to complete SIGI during the three weeks of the career unit and were assigned times to do this between classes. Classes met only at the end of each week for orientation and discussion. During the weekly class meetings the counselor provided detailed information for the next computer assignment and a debriefing of the assignment just completed. The question Pyle sought to answer was 'What relationship is there between career maturity as measured by the CMI attitude scale and student participation in a career development unit in which SIGI is used as a laboratory experience?' After the post test means were adjusted for the regression effect of the covariate, the Scheffle multiple comparison technique was used to determine the significance of change in the adjusted means. It was discovered that the SIGI students' post test scores were significantly different from those of the control group at the .01 level (Pyle and Stripling, p. 73).

Rationale for this Study

The Ottawa University's Career Center staff used the group counseling model developed by Pyle (1986) and designed

a series of group counseling sessions using SIGI-Plus as a career guidance tool. Nearly two years ago the program was incorporated into the required freshman core class: Writing: Vocation and Liberal Arts. This study was designed and conducted with the intent of discovering if the program helped freshmen students significantly improve in career maturity. SIGI-Plus is a time consuming computer program and the group sessions take three or four class periods which could be used in other ways if the students do not benefit significantly.

There are several differences between this study and previous research. Perhaps the most significant difference is that in our study, freshmen students were required to attend the counseling sessions as a part of a required course. In Pyle's study (1976) the subjects were voluntarily enrolled in a career guidance course, probably because they felt a need for career counseling intervention. And in the study by Risser and Tulley (1977) the subjects had each volunteered for career counseling. The fact that none of our students sought career guidance could have had a significant affect on their willingness to internalize the knowledge and skills taught during the sessions.

Another difference is that in the two previous studies cited, the students used the program SIGI rather than the newer SIGI-Plus which is used at Ottawa University. SIGI was

the original computer assisted career guidance (CACG) program developed by Educational Testing Services and is no longer available. Essentially it covered the same material as the new program but was not as extensive and it was arranged a little differently. (A brief overview of each program can be found in Appendix A.)

In the two previous studies the subjects were required to complete the entire SIGI program. In this study they were only asked to do the first two modules of SIGI-Plus: Self-assessment and Search. (See Appendix A) The fact that the subjects did not complete the total program could have influenced their development of career maturity.

Finally, in this study three groups were used: a control group; a group which used SIGI-Plus without benefit of any counseling intervention; and a group which used the SIGI-Plus program and were required to participate in a group counseling process. Our purpose was an attempt to discover whether it was the computer program which caused change or the combination of both counseling and the computer assisted career guidance intervention.

METHOD

Hypothesis and Variables

The hypothesis of this study was that the students' career maturity would not change by the use of SIGI-PLUS or group counseling sessions (a null hypothesis). The independent variables were the method of instruction which consisted of using a computer assisted career guidance (CACG) system and group counseling sessions using the computer program as a tool. The dependent variable was the amount of knowledge the student gained about the career decision-making process and their growth in career maturity as discovered through administration of a pretest and a post test. Possible intervening variables were:

1. Many students fear the computer because of their lack of computer experience. This may have inhibited the learning that should occur through use of the computer program. To control for this they were assured that it is very difficult to harm the program or computer and counselors were available to answer questions and guide them through the program as needed. The program itself is very user friendly with clear, concise directions.

2. Three different professors conducted the group sessions and they each have a different teaching style. The amount of knowledge and skill the students gained from the group sessions could have been influenced by the way the

professor conducted them. In an attempt to control for this intervening variable the instructors were trained by the Career Center staff in group counseling methods and procedures and each class used the same materials and followed the same format.

Subjects and Sampling Plan

The subjects for this study were all freshmen enrolled in the course Writing: Vocation and Liberal Arts during the fall semester of 1988. The nine existing freshman core classes were used (cluster sampling). When cluster sampling is used the critical concern is whether or not the groups are somewhat equivalent. As the students were assigned to classes care was taken to evenly distribute the students as much as possible according to, ACT scores and age.

Table 1. ACT and Age averages for each class.

Class	ACT Averages	Age Averages
Class 1	19.01	18.273
Class 2	16.667	19.778
Class 3	19.800	20.200
Class 4	20.571	18.714
Class 5	17.778	19.444
Class 6	17.444	21.444
Class 7	18.909	19.545
Class 8	17.750	18.500
Class 9	19.625	20.875

Table 1 shows the data on age and ACT scores. Most of Ottawa University's students must take the ACT as an entrance

exam. Some have taken the SAT, but those scores were converted to ACT equivalent scores.

Table 2 shows the average ACT scores and ages of each group.

Table 2. Averages for each group (Control, Computer only, and Computer plus group sessions).

Groups	ACT Averages	Age Averages	Career Maturity Pre test scores
Control	18.492	19.417	34.333
Computer only	18.598	19.867	34.640
Computer plus group sessions	18.761	19.640	34.148

Perhaps more importantly, the students who participated in this project were surprisingly equitable in career maturity at the beginning of the study. Each group's average pretest scores on the Career Maturity Inventory were over 34.00 and less than 35.00.

One hundred and two students took the pretest. Twenty of them were discarded either because they were absent during one of the group counseling sessions or because they did not take the post test. The actual sampling consisted of eight-two subjects which was seventy-nine percent of the 1988-89 freshman class and reasonably representative of Ottawa University's freshmen.

Experimental Design

Freshman core consists of nine classes with nine different instructors. The classes were randomly grouped into three sections consisting of three classes each. The groups were the 'control' group, the 'computer only' group, and the 'computer plus the group sessions' group. All three groups were given a pretest at approximately the same time. During the next three weeks the control group was given no controlled career guidance, the computer only group was assigned to do the career guidance computer program, SIGI-Plus in the career center, and the third group did the computer program and participated in three group counseling sessions lead by their instructors (see table 3).

Table 3. Experimental design.

Group	Pre test	Intervention	Post test
Control	CMI	0	CMI
Computer only	CMI	Computer program	CMI
Computer plus group sessions	CMI	Computer program plus group sessions	CMI

Internal Threats to Validity

According to Campbell and Strong (1963) there are several different classes of variables that can be a threat

to the internal validity of an experimental study including:

1. History - the specific events occurring between the first and second measurement in addition to the experimental variable.

Events outside of group counseling or even the Vocation and Education classroom could have an influence on the students' knowledge of career development. For example some of the students could be taking another course that would influence their career decision-making ability.

2. Maturation - the process within the respondents operating as a function of the passage of time per se (not specific to the particular events), including growing older, growing hungrier, growing more tired, and the like.

The experiment covered a three week time period. All of the classes are taught at the same time (9:00 a.m.) so maturation would not be a problem during the group sessions, but they did the computer program at different times of the day and whether they were tired or hungry could have influenced the responses they gave to the program and their growth in career maturity.

3. Testing - the effects of taking a test upon the scores of a second testing.

All three groups were given both tests, therefore,

any improvement due to the test-retest factor would occur in all three groups.

4. Instrumentation - in which the changes in the calibration of a measuring instrument or changes in the observers or scorers used may produce changes in the obtained measurements.

We used exactly the same instrument for both the pre and post tests and they were scored in the same way.

5. Statistical regression - operating where groups have been selected on the basis of their extreme scores.

This was no threat to our study since test scores had no contribution to the choice of subjects.

6. Selection biases - biases resulting in differential selection of respondents for the comparison groups

As shown in the section "Subjects and Sampling Plan" all three groups were fairly equivalent according to age, ACT scores, and career maturity.

7. Differential mortality - differential loss of respondents from the comparison groups.

Our sample may be representative of the more motivated, self-disciplined students in the freshmen class since they are likely to be the students who were in attendance during all sessions and took both tests.

External Threats to Validity

Some threats discussed by Campbell and Strong to the external validity of a study are:

1. Reactive or Interaction Effect of Testing - a pretest might increase or decrease the respondent's sensitivity or responsiveness to the experimental variable and thus make the results obtained for a pretested population unrepresentative of the effects of the experimental variable.

Since both the pretest and the post test contained the same questions, the students were familiar with the test and may have scored higher on the post test because of familiarity with the test. The outcome may not be generalizable because the pretest may have sensitize the subjects to the treatment.

2. Selection - The interaction effects of selection biases and the experimental variable.

Cluster sampling was utilized since the classes were already assigned when the study was initiated. Due to differential mortality, our selection may have been representative of the more motivated, self-disciplined students in the freshman class because they are likely to be the students who were in attendance at all sessions.

The actual sampling after differential mortality consisted of eighty-two subjects which was seventy-nine percent of the 1988-89 freshman class and reasonably representative of Ottawa University's freshmen.

3. Reactive Effect of Experimental Arrangements - which would preclude generalization about the effect of the experimental variable upon persons being exposed to it in nonexperimental settings.

This could have had an influence on the outcome of the study in that if the students were aware that the outcome of the study of <u>their</u> class would affect future use of SIGI-Plus in the freshman core class, their response to the program may be different from those of a regular class. We tried to control for this by allowing the students to believe that the testing, etc. was a normal part of the SIGI-Plus group sessions.

Intervention

The CACG used in this study was SIGI-Plus, an advanced career guidance system, which allows the user to respond to questions, ask about occupations, and make decisions about values, interests, skills, educational programs and more. It has a total of nine different modules addressing different aspects of the career search process (see appendix A). The first module is the Self-Assessment section. It allows the

students to look at work-related values and decide what is most important to them. They can also choose their main interest fields, and they can look at various activities and decide which ones they like and can do well. The users are able to answer questions and enter their information into the computer. They are instructed to answer all questions even if they are about subjects they have never considered. All questions are multiple choice and they are instructed to make the best choice they can. A list of the values, interests and activities along with a definition of each is included as Appendix B.

The second module is the Search section and it reminds them of the answers they have given in the Self-Assessment section. It also allows them to choose features they want to avoid in work (for example math or public speaking). Using the answers given in both sections, a list of occupations that match what they have indicated they prefer is provided. The list usually includes between 15 and 20 different occupations for the students to consider. Only the first two modules were used in this study: self-assessment and search. They take approximately one hour to complete.

When all the students in the third group had an opportunity to use SIGI-Plus individually, group sessions began. (See Appendix C for an outline of the group sessions). They consisted of one hour each, Monday,

Wednesday, and Friday of the same week (regular class period). The first session started by having everyone list and read to the group at least 15 things they would do if they were given $10,000,000. This exercise was used as an ice breaker and was a way of discovering values. They compared the values they used in the ice-breaker with the values they chose in the computer program. They then split up into pairs or groups of three and challenged each others values. Asking why a particular choice was important to them, and how they made the decisions they did.

When the challenge of values exercise was completed, the group leader explained the Janis and Mann (1977) criteria for judging the quality of decision-making behavior. They received a handout (see Appendix D) and they discussed the decision-making model.

After they were introduced to the proper decision-making tactics, they played a variation of the party game developed by Richard N. Bolles (1977). This is an exercise to introduce basic categories of occupations. A copy of the party game is included as Appendix E. Basically, they were asked to choose a particular group that they would enjoy spending time with at a party. There are six different groups to choose from: (1) people who are athletic or mechanic, (2) people who like to work with data, (3) people who like to persuade people, (4) people who like to inform or

train people, (5) people who are artistic and creative, and (6) people who like to analyze, evaluate or solve problems.

At the end of the first group session, the students were assigned to write a paragraph or two about an accomplishment of which they were particularly proud and to break down their accomplishment into the interests and skills that were evident in the completion of the task for the next session.

At the beginning of the second session the students started by doing the Coat of Arms worksheet (See Appendix F). On the worksheet, they were asked to draw their own personal coat of arms and to represent it in different areas: two things they do well, their "psychological" home, their greatest success, three influential people in their lives, what they would do if they had one year left to live, and three words they would like people to say about them.

After the coat of arms exercise, each student was spotlighted. They were asked to sit in a "cool seat" and they shared with the group their printouts from SIGI-Plus, the outcome of their party exercise, and their accomplishment paper along with the lists of skills and interests that were used. At the end of each student's turn in the "cool seat", the other members of the group were given an opportunity to express and discuss what they perceived the subject's strengths to be and what occupations would be good possibilities for them. They then compared their list to the

SIGI-Plus print-out of occupations.

Toward the end of the second session the instructor described field surveys, and the students were assigned to do at least one for the next class period. Essentially, a field survey is the process of gathering information about a career by asking someone already working in the field questions about what they do. (See Appendix G for the questions that were suggested.)

The third session was almost a repeat of the second, allowing the remaining students to participate in the "cool seat". Finally, they all briefly shared what they learned from their field surveys. The post test was given at the end of the last session.

Instrumentation

The instrument used for the pretests and the post tests was the Attitude Scale, Counseling Form B-1, of the Career Maturity Inventory (CMI) developed by John O. Crites (1978). In the process of deciding which test to use, samples of the Career Development Inventory (CDI) developed by Super, et.al. (1979) and the CMI were ordered. The CDI takes approximately 65-70 minutes to take and the CMI about 20-25 minutes. The CMI can be handscored while the CDI needs to be computer scored. Although both instruments have been used extensively and each have had validation studies conducted on them, the

CMI was chosen in the interest of time and money. The CMI was also the instrument used in the previous study conducted by Pyle (Pyle and Stripling, 1976), as well as in the research conducted by Davis and Horne (Davis and Horne, 1986).

The attitude scale consists of 75 attitudinal statements which define specific career development variables. These variables include:

1) decisiveness in career decision making or the extent to which an individual is definite about making an career decision

2) involvement in career decision making or the extent to which an individual is actively participating in the process of making a choice

3) independence in career decision making or the extent to which an individual relies upon others in the choice of an occupation

4) orientation to career decision making or the extent to which an individual is task oriented or pleasure oriented in his or her attitudes toward work and the values he or she places upon work

5) compromise in career decision making or the extent to which an individual is willing to compromise between needs and reality (Crites, 1978 p. 10)

The validity of the instrument has been extensively studied. There are basically three kinds of validity: content validity, criterion-related validity and construct validity (Ibid).

The content for the items in the CMI was drawn from central concepts in career development theory. From a pool of approximately 1000 items 100 were selected then narrowed

down to 75 actual questions. In one study of the content validity of the attitude scale Hall (1962) asked ten expert judges (five male and five female counseling psychologists) to indicate which they considered to be the more mature response to each attitude item. The criterion used was agreement between eight out of ten judges. There was a 74 percent agreement by the judges on all questions. This shows that the attitude scale would appear to have content validity (Ibid).

In one study of the criterion-related validity Capehart (1973) classified 138 post high school students (sex not specified) as having congruent, incongruent, or undecided career choices as defined by Holland's Self-Directed Search (SDS). Then he compared these groups on the attitude scale. Those subjects who had congruent career choices were significantly ($p < .01$) more mature that those who were undecided. These relationships support the criterion-related validity of the instrument (Ibid).

Perhaps the most relevant evidence for construct validity comes from comparison with other variables. Numerous studies have been conducted on the CMI for construct validity. Correlations of .17 have been found by Carek (1965) between the attitude scale and the American College Testing program (ACT) for 346 male college students. Williams (1967) found an r of .20 with the Scholastic

Aptitude Test - Verbal in a sample of 215 male sophomores. These are but two of the studies reported by Crites (1978) in the Theory and Research Handbook (Ibid).

Results

The Attitude Scale, Counseling Form B-1, of the Career Maturity Inventory (CMI) was given to the three groups (nine classes). During the next three weeks the 'control' group received no intentional career intervention then were given the CMI again as a post test. Thirty of the students in this group took both the pretest and the post test. The 'computer only' group was assigned to do the SIGI-Plus program in the Career Center. Twenty five of the students in this group did the program and took both the pretest and the post test. The students in the 'computer plus group sessions' group were assigned to use the computer in the Career Center and then they participated in three group career counseling sessions (Monday, Wednesday, and Friday) in their classrooms. Twenty seven students completed the computer assignment, attended all three sessions and took the pretest and the post test.

The pre tests and the post tests of all three groups were scored and a dependent t-test was run for each group (See table 4). The 'computer plus group counseling' section was the only one to show a significant difference between the pretest and post test.

Table 4. Mean scores of pre and post tests and t for each group.

Groups	Pretest	Post test	t
Control group	34.333	35.267	1.98
Computer only group	34.640	35.040	0.63
Computer plus group counseling	34.148	36.503	4.90*

*(p < .001)

T-tests were run on the three different group facilitators in the 'computer plus group counseling' section with the result shown in table 5. Class one and two each showed a significant gain.

Table 5 Statistical information about each group facilitator in the computer plus group counseling section.

Facilitators	Pretest	Post test	Average gain	t test
Class 1	34.273	37.727	3.4	3.68*
Class 2	32.25	35.000	2.7	2.50*
Class 3	34.875	36.625	1.7	2.33

*(P < .05)

As stated earlier the CMI measures five different components of career maturity (decisiveness, involvement, independence, orientation, and compromise). Each of the five subcategories were scored, as well as the overall pre and post test scores for each group. The results can be found in tables 6 - 8.

Table 6 shows that there was no significant differences in any area for the control group. In fact in most categories their average post test scores are lower than their average pretest scores.

Table 6. Subcategories for the control group.

Subcategories	Pretests	Post tests	Average gain	t test
Decisiveness	5.700	5.500	-.20	0.54
Involvement	8.7667	8.3667	-.40	-0.64
Independence	7.333	7.1333	-.20	0.81
Orientation	7.1333	6.9667	-.17	-0.49
Compromise	5.0333	5.3000	.27	1.09

Table 7 represents the average scores of the 'computer only' group's pre, post, and t test scores. There is no significant improvement in any category.

Table 7. Subcategories for the computer only group.

Subcategories	Pretests	Post tests	Average gains	t test
Decisiveness	5.320	5.400	.08	0.21
Involvement	9.120	8.960	-.16	-0.64
Independence	7.280	7.400	.12	0.51
Orientation	6.600	6.200	-.40	-0.80
Compromise	5.320	5.360	.04	0.13

Table 8 shows that the average post test scores of the 'computer plus group sessions' section were higher in all areas than the average pretest scores with a significant improvement in orientation to career choice shows a significant improvement.

Table 8. Subcategories for the computer plus the group sessions section.

Subcategories	Pretests	Post tests	Average gain	t test
Decisiveness	4.556	5.185	.629	1.63
Involvement	8.519	8.778	.259	1.10
Independence	7.593	7.778	.185	1.22
Orientation	6.037	7.370	1.33	3.03*
Compromise	5.556	5.667	.11	0.47

*P < .01

DISCUSSION

In summary, most college freshmen are concerned about their future careers and they believe they need some kind of career counseling intervention to confidently select a career that will be intrinsically satisfying. Post-secondary schools are attempting to meet this need through career planning and placement centers. Ottawa University's Career Center, with the cooperation of the faculty and administration, integrated a career counseling program into a required freshman core class called Writing: Vocation and Liberal Arts. The program combined a group career counseling process and a computer assisted career guidance program (SIGI-Plus).

A research project was instigated in an attempt to answer the question "Does the career counseling program used in freshman core contribute significantly to the growth in career maturity of Ottawa University's freshmen?". The major outcome of this study was a rejection of the null hypothesis that there would be no significant gain by any of the three groups who participated in the research project. The students whose treatment involved the use of the computer program SIGI-Plus and participation in group counseling sessions achieved significantly higher scores on the Career Maturity Inventory given as a post test than they did on the

same inventory used as a pretest ($P < .0001$). Neither the control group or the 'computer only' group achieved a significant difference.

The statistical test used was a dependent t-test. According to Zinser (1984) a factor which determines the selection of a statistical test is whether the data of the study are independent or dependent. If the subjects of all the treatment groups were matched . . . or if multiple tests or treatments were administered to each of the subjects, the dependent or correlated t-test. . . would be the appropriate test to use (Zinser, 1984). Since the data in which we were interested involved scores achieved on the Career Maturity Inventory (CMI) administered as a pretest and again as a post test, the decision was made to use a dependent t-test as the proper statistical test.

In addition to over-all career maturity the CMI also measures five specific career development variables. These include decisiveness, involvement, independence, orientation, and compromise in career decision making. When these variables were scored, t-test were also used to statistically analyse the outcome. The control group and the group which completed the computer assignment only did not have a significant gain in any of the five variables. The group that participated in group counseling showed a significant improvement in one area: Orientation to career decision

making. Questions in this section of the CMI involve work values and attitudes. The sections of SIGI completed for this study, Self-Assessment and Search, concentrate heavily on work values. They both force the user to make choices about their preferences of work values and interests such as independence, high income, prestige, etc. (see Appendix B). The processes used in the group sessions concentrate on guiding participants through further activities which help with identification of work values and interests. These activities involve challenging, clarifying, and solidifying choices made while doing the computer program. It is possible that the high scores on the orientation section could be the reason for the overall gain for this group.

Another outcome of this research is that it doesn't seem to matter whether or not the students involved in the program are actively seeking career guidance. In previous studies conducted by Pyle (1987) and Risser and Tulley (1977) the subjects had in some way requested career guidance. In this study the subjects were expected to participate as part of a required course. This would indicate that the program can be of value in a required freshman core class. Apparently the students were able to internalize the knowledge and skills taught whether or not they were actively seeking career guidance.

In this study students were assigned to complete only

the first two modules of the SIGI-Plus program. In the previous studies cited, the subjects used the old SIGI program and were required to complete the entire program. Significant results were reported by Pyle and this project would indicate that the new SIGI-Plus program when combined with group counseling is equally as effective as the older program. It also indicates that students can a achieve a significant gain in career maturity when using only SIGI-Plus' first two modules with group counseling.

In discussing Pyle's study Pyle and Stripling suggest "There are a number of factors that could have led to the significance of change in the SIGI group scores. The fact that SIGI is a novel approach to which most students have never been exposed could have created the excitement and motivation needed to facilitate concentration and attention." (Pyle and Stripling 1976, p. 74) This research project would indicate that the computer program itself is not sufficient to create enoughe interest and excitement to affect a significant change in career maturity. Students who used SIGI-Plus alone with no counseling intervention, did not show a significant difference between their pre and post tests on the Career Maturity Inventory.

In addition to running t-tests the entire 'computer plus group counseling' group's pre and post tests, an analysis was made of each of the three facilitators' classes individually.

Two of the three classes achieved significantly higher scores on their post tests. The fact that the third class did not, would indicate that facilitators do have some influence on the successful use of this program.

In conclusion, this study clearly demonstrates that the program as it now exists in the freshman core class at Ottawa University is of value. The only suggestion for improvement in the future would be to use career counselors as facilitators if possible. They are trained to guide students through the career search process, and have the knowledge and skills to help students choose an occupations meet their needs, motives, values, and talents.

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APPENDIX A

SIGI AT A GLANCE AND SIGI-PLUS USER'S GUIDE

SIGI® at a glance

- ☐ is an interactive computer-based aid to career decision making. . .
- ☐ serves primarily students in, or about to enter, two-year and four-year colleges. . .
- ☐ complements the work of guidance counselors. . .
- ☐ was developed on the PDP-11 computer. . .
- ☐ has been converted for other minicomputers, some mainframes, and certain microcomputers. . .
- ☐ includes six interrelated subsystems listed below. (Each subsystem raises a major question and helps the student answer it. These questions and answers form distinctive steps in decision making.)

Subsystem	What the Student Does	Questions Answered
Introduction	Learns concepts and uses of major sections listed below.	Where do you stand now in your career decision making? What help do you need?
I. VALUES	Examines 10 occupational values and weights importance of each one.	What satisfactions do you want in an occupation? What are you willing to give up?
II. LOCATE	Puts in specifications on 5 values at a time and gets lists of occupations that meet specifications.	Where can you find what you want? What occupations should you look into?
III. COMPARE	Asks pointed questions and gets specific information about occupations of interest.	What would you like to know about occupations that you are considering? Should you reduce your list?
IV. PREDICTION	Finds out probabilities of getting various marks in key courses of preparatory programs for occupations.	Can you make the grade? What are your chances of success in preparing for each occupation you are considering?
V. PLANNING	Gets displays of program for entering each occupation, licensing or certification requirements, and sources of financial aid.	How do you get from here to there? What steps do you take to enter an occupation you are considering?
VI. STRATEGY	Evaluates occupations in terms of the rewards they offer and the risks of trying to enter them.	Which occupations fit your values best? How do you decide between an occupation that is highly desirable but risky and one that is less desirable but easier to prepare for?

WELCOME TO SIGI PLUS

What is SIGI PLUS?

SIGI PLUS—pronounced "siggy plus"—is a very special tool that can help you to plan your career. Developed by a team of researchers and specialists at Educational Testing Service, SIGI PLUS (System of Interactive Guidance and Information PLUS) is the most advanced career guidance system available. It combines the unique capabilities of the computer with thoroughly researched information about occupations, values, interests, skills, educational programs, and more.

How can a computer help me decide on a career?

SIGI PLUS can help you examine your present values, interests, and skills systematically. Once you enter your own preferences, the program searches its built-in library, and finds those careers that most closely match those preferences. It can save you literally *days* of leafing through catalogs and career books, and because its built-in library is so large, it may well find career options you never even knew existed.

What can a computer know about me?

A computer is only a machine. It knows what you tell it; nothing more. That's why it's so important for you to think hard and to respond honestly to the computer's questions. Even if it asks a question you've never really considered or that you find hard to answer, make the best choice you can. In this way, the career possibilities that SIGI PLUS presents will be as accurate as possible.

What does SIGI PLUS include?

SIGI PLUS covers all the major aspects of career decision making and planning through a carefully constructed system of nine separate but interrelated sections. Since people have different goals, you may find some sections more useful than others. SIGI PLUS has been specially put together to show you how to choose the path through the system that's best for you.

The introductory section will teach you the few simple computer commands you'll need and show you what the other sections contain. Afterwards, you can decide where you want to go in the system. If you are using SIGI PLUS for the first time, you may want to go through the entire program. Or, if you so desire, SIGI PLUS can recommend a pathway through the system to suit your situation. If you have specific questions, you can also go right to the section that deals with them. For example, if you're already considering a particular occupation, you might want to start with INFORMATION, PREPARING, or SKILLS, then return to SELF-ASSESSMENT to see how well your tentative choice agrees with your values, interests, and skills.

On the following pages, you'll find descriptions of all the sections of SIGI PLUS along with brief explanations of how you can use the information in those sections.

1 INTRODUCTION: What's in SIGI PLUS?

In INTRODUCTION, you get an overview of all of SIGI PLUS and choose which section you want to use next. You can:

- see clearly what's in the whole system
- decide which sections apply to you
- request more details about each section before you choose
- get a recommended pathway through the system

2 SELF-ASSESSMENT: What do I want? What am I good at?

In SELF-ASSESSMENT, you can:

- look at work-related *values* and decide what's most important to you
- choose the main *interest* fields you want to use at work
- look at various activities and decide which ones you like and can do well

3 SEARCH: What occupations might I like?

In SEARCH, you can:

- choose features you want in your work
- choose features you want to avoid in your work
- receive a list of occupations that match what you asked for

4 INFORMATION: What occupations might I like?

In INFORMATION, you can choose one or two occupations at a time and ask specific questions about them, including:

- what skills each occupation requires
- possibilities for advancement in the field
- what the potential income is
- the national employment outlook in the field
- what the education requirements are

5 SKILLS: Can I do what's required?

In SKILLS, you can:

- see specific skills required for any occupation in SIGI PLUS, including managerial skills
- rate yourselves on these skills
- see how job skills are applied in a chosen field. For example, SIGI PLUS can distinguish between the sort of negotiating skills required of social workers, police officers, sales people, and foreign service officers.

6 PREPARING: Can I do what's required?

In PREPARING, you can:

- see typical preparation paths to any occupation in SIGI PLUS
- see the typical training or college education needed for any occupation in SIGI PLUS. (Then SIGI PLUS permits you to see not only courses and course descriptions, but even the work tasks that must be learned.)
- consider four important factors related to preparing: finding time, finding money, handling the difficulty, and staying motivated
- estimate your likelihood of completing preparation

7 COPING: Can I do what's required?

In COPING, you can:

- find out how to get practical help with issues related to preparing for a career, for example: finding time and money, arranging care for others, or obtaining academic credit for what you already know
- get suggestions about how to handle worries common to adults in a college or training situation, such as time management, fitting in, competing

8 DECIDING: What's right for me?

In DECIDING, you can look at three occupations at a time. For each one you can ask:

- What are the rewards? Will I enjoy this occupation?
- What are my chances? Can I get in?
- All things considered, would this be a good choice for me?

9 NEXT STEPS: How do I put my plan into action?

In NEXT STEPS, you start moving toward your career goals by planning short-term strategies such as:

- getting more education or training
- developing new skills
- proving you can do the work
- building a network of contacts
- writing a resume (You can get a sample resume.)
- overcoming obstacles

GETTING STARTED

Can I use SIGI PLUS even if I don't know anything about computers?

Yes, you can! Despite its sophistication, SIGI PLUS is simple to use. You need no prior knowledge of computers, because SIGI PLUS uses plain English. All you need to do is press a few clearly indicated keys—SIGI PLUS will tell you which key to press and when.

How long will it take me to use SIGI PLUS?

That depends on what you want. You can go systematically through all the sections or only those you think apply to you. A section can take anywhere from a few minutes to half an hour. If you prefer, you can work on just a few sections at a time and then come back for another session. You can stop whenever you want.

How private are my responses?

Only *you* know what information you've put into SIGI PLUS. When you've finished for the day and signed off, the computer automatically erases everything you have entered.

How can I remember everything that SIGI PLUS provides?

You can make a printout of all the information provided by SIGI PLUS that you want to save. At the end of this booklet is a checklist of all the possible printouts you can make and directions for making them. This list will help you keep your printouts organized.

How do I get started?

You've already begun just by opening this booklet. Continue reading the questions and answers and look at the list of printouts you can make. Then go ahead and start to use SIGI PLUS. The INTRODUCTION appears automatically—after that, the program will guide you.

APPENDIX B

DEFINITIONS OF VALUES, INTERESTS, ACTIVITIES AND SEARCH VARIABLES

Occupation-related values:
- Contribution to Society
- High Income
- Independence
- Leisure
- Prestige
- Security
- Variety

Job-related values:
- Advancement
- Challenge
- Easy Commute
- Flexible Hours
- On-the-Job Learning
- Pleasant Co-workers
- Staying Put

Here are the definitions for the Values in SIGI PLUS:

ADVANCEMENT
You want a chance to be promoted in predictable steps or move directly to a higher-level job. You want to avoid a "dead end" job.

CHALLENGE
You want to use your abilities to solve difficult problems. The work won't be easy, but it can give you a feeling of accomplishment.

CONTRIBUTION TO SOCIETY
Almost all work contributes to the functioning of society, but you want your work to be devoted mainly to the improvement of the health, education, or welfare of society as a whole.

EASY COMMUTE
You want your work to be close to home, so getting there and back takes little time. Or convenient public transportation, car pooling, or van pooling may be available.

FLEXIBLE HOURS
You want a flexible work schedule so that you can adjust on-the-job hours as long as you put in the required total time.

HIGH INCOME
You want an occupation in which the median income is high compared with other occupations. (The median is the point at which half earn more, half less).

INDEPENDENCE
You want to be your own boss, make your own decisions, or work without close supervision - not be required to follow daily instructions to the letter.

LEADERSHIP
You want to guide others, tell them what to do, get them to work together, be responsible for their performance. You're willing to accept the blame when things go wrong.

LEISURE
You want short hours or long vacations. You feel that the satisfactions you get off the job are so important that work must not interfere with them.

DEFINITIONS OF SIGI PLUS VALUES, INTERESTS, ACTIVITIES, AND SEARCH VARIABLES

VALUES

SIGI PLUS uses two kinds of work-related values: those generally associated with an occupation as a whole (for example, Contribution to Society or High Income) and those that depend on the specific job a person might hold (for example, Pleasant Co-workers or Easy Commute).

ON-THE-JOB-LEARNING
You want to learn new skills and ideas so that you can learn the job as you go or prepare for a higher-level job. You may simply enjoy learning for its own sake.

PLEASANT CO-WORKERS
You want to work with people who are agreeable, who share your interests and attitudes, who are easy to get along with.

PRESTIGE
You want an occupation that will lead people to look up to you, listen to your opinions, or seek your help in community affairs.

SECURITY
You want work that is not sensitive to recession, abrupt changes in technology, government spending, or public taste. You want to avoid seasonal ups and downs.

STAYING PUT
You want work that will not require a move to another geographical area.

VARIETY
You want different activities and problems, people, or location—not a fixed routine.

INTERESTS (fields of knowledge)

Interests can be divided into two aspects: what you enjoy knowing about and what you enjoy doing. The term *Interests* as used here refers to fields of knowledge a person would deal with in preparing for or working in a specific occupation. (The "doing" aspect of Interests is covered under Activities.)

Here are the fields of knowledge used in SIGI PLUS:
- Arts & Humanities
- Business
- Crafts & Technologies
- Health
- Science & Math
- Social & Behavioral Sciences
- Sports & Physical Education

ACTIVITIES

SIGI PLUS uses the same list of Activities to deal with two distinct concepts: Interests (Activities you LIKE to do very much) and Skills (Activities you're especially GOOD at).

These Activities are used in SEARCH to locate occupations and in SKILLS to define what a person must be able to do (skills required) to perform the tasks of given occupation.

As you look at the list of Activities, you'll notice they are grouped into several major categories. The SIGI PLUS Activities/Skills list has been developed from the usual division into Data, People, or Things.

Here is the list of Activities used in SIGI PLUS:

(10) WORKING WITH PEOPLE
- (11) training, instructing
- (12) advising, counseling, interviewing
- (13) persuading, negotiating, selling
- (14) assisting, protecting, providing physical care
- (15) coordinating work with others
- (16) supervising, directing, assessing

(20) WORKING WITH HANDS OR EQUIPMENT
- (21) operating machines or equipment
- (22) using tools, measuring
- (23) maintaining, inspecting, repairing
- (24) installing, setting up, constructing
- (25) drafting, drawing
- (26) designing equipment, developing systems

(30) COMMUNICATING
- (31) following written and oral instructions
- (32) explaining, answering questions
- (33) making presentations
- (34) writing, preparing reports
- (35) public speaking, broadcasting, entertaining

(40) ORGANIZING INFORMATION
- (41) keeping records, cataloguing
- (42) gathering information, conducting research
- (43) making diagrams
- (44) analyzing, interpreting, evaluating
- (45) planning, making decisions
- (46) developing ideas

(50) WORKING WITH MATH
- (51) mathematical reasoning
- (52) calculating, computing, applying formulas
- (53) developing budgets
- (54) analyzing numerical data

(00) SPECIAL SKILLS
- (01) attention to detail
- (02) quick thinking
- (03) memorizing
- (04) working with computers
- (05) fine & performing arts
- (06) spatial visualization

SEARCH variables (features that can be used to sort occupations)

In SEARCH, users can specify each feature they either *want* or else want to *avoid* in their work. The computer sorts through the SIGI PLUS database and, by eliminating all occupations that don't meet that specification, creates a personal list of occupations to explore.

Here are the two separate sets of variables that can be used in SEARCH, one set for what a user may want, and the other for what a user may want to avoid.

"Positive" search variables:
- Values
- Interests
- Activities
- Required Education or Training

"Negative" search variables:
- Outdoor Work
- Physically Demanding Work
- Sedentary (Desk) Work
- Public Speaking
- Mathematics
- Writing
- Keen Competition for Jobs

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APPENDIX C

SIGI-PLUS GROUP PROCESS MODEL

SIGI-PLUS GROUP PROCESS MODEL

The SIGI-Plus group process model as it has been designed for Education and Vocation is a series of small-group sessions which will use information from the SIGI-Plus computer program and other sources to accomplish the following:

GENERAL GOALS

1. To further the general purpose of Education and Vocation - to help each individual student develop self-understanding and awareness of personal power in making life decisions;

2. To present a decision making model and synthesis process with help the student implement "life decision-making" in relation to the Ottawa University program in particular and in the world of work in general; and

3. To provide a small-group format which enhances opportunities for trying-on different possibilities and for feedback from peers.

GROUP PROCESS

FIRST GROUP SESSION

Technique	Group Process Goal
$10,000,000 story	-Self-disclosure -Values
Dyads with work values	-Challenge values of others -Own values challenged
Decision Making/ Life Designing	-Understanding of decision-making styles and impact on life choices. -Importance of career planning
Party exercise	-Intro to basic categories of occupations -Relationships of personal qualities and group skills to occupations
Assignment: Accomplishment paper analysis Interests Skills	-Understanding and synthesis of skills and interests and transferability of these individual entities to the world of work

SECOND GROUP SESSION

Technique	Group Process Goal
Coat of Arms	-Icebreaker -Values clarification
Cool Seat	-Debriefing of computer content -Information processing with each participant -Synthesis of: Party SIGI-Plus Accomplishment paper
Strength Bombardment	-Create Self Esteem -Empowerment
Assignment: Field Survey	-Aid career choice

THIRD GROUP SESSION

Technique	Group Process Goal
Cool Seat	-Debriefing of computer content -Information processing with each participant -Synthesis of: Party SIGI-Plus Accomplishment paper
Strength Bombardment	-Create Self Esteem -Empowerment
Field Survey	-Aid career choice

APPENDIX D

DECISION-MAKING

DECISION-MAKING

Janis and Mann recommend seven criteria for judging the quality of decision behavior:

1) Thoroughly canvasses a wide range of alternative courses of action.
2) Surveys the full range of objectives to be fulfilled and the values implicated by the choice.
3) Carefully weighs whatever he/she knows about the costs and risks of negative consequences, as well as the positive consequences, that could flow from each alternative.
4) Intensively searches for new information relevant to further evaluation of the alternatives

5) Correctly assimilates and takes account of any new information or expert judgment to which he/she is exposed, even when the information or judgment does not support the course of action he/she initially prefers.

6) Reexamines the positive and negative consequences of all known alternatives, including those originally regarded as unacceptable, before making a final choice.

7) Makes detailed provisions for implementing for executing the chosen course of action, with special attention to contingency plans that might be required if various known risks were to materialize.

DECISION-MAKING MODEL

1) Recognition of need for decision.

2) Diagnosis of problem---self-assessment, career exploration.

3) Identification of alternatives.(1. majors 2. job settings).

4) Evaluation of alternatives.

5) Selection of the best alternative.

6) Planning how to implement the decision.

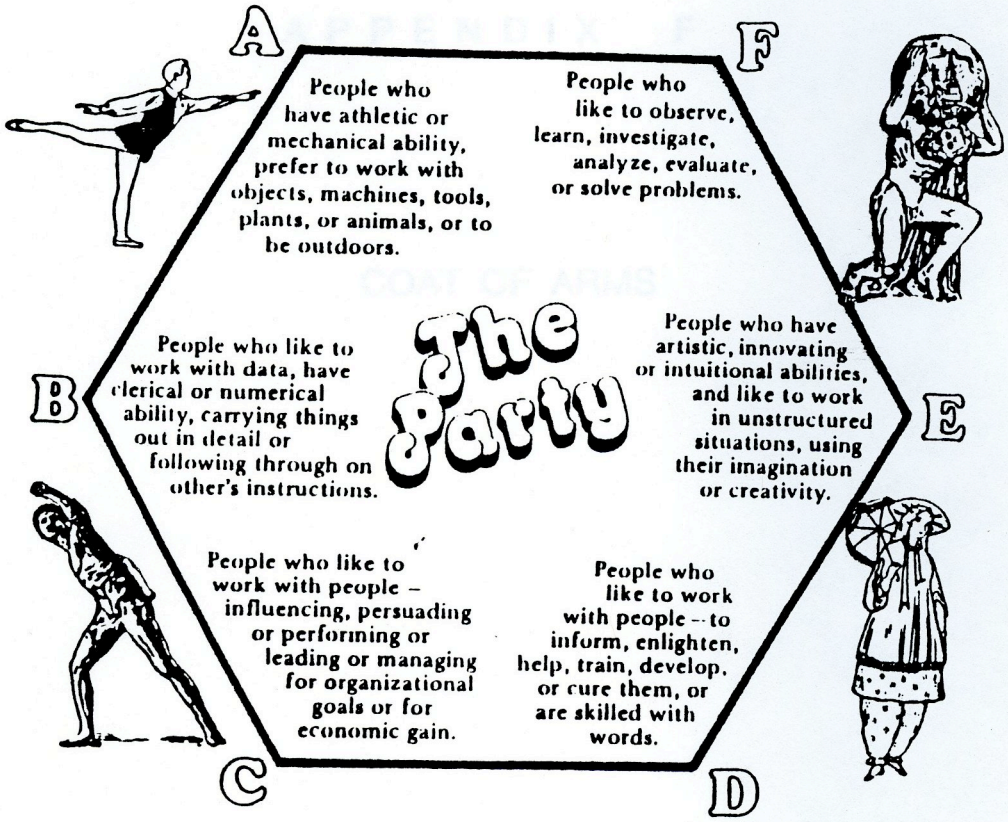
APPENDIX E

THE PARTY

What Skills You Have and Most Enjoy Using

Generally speaking, all skills divide into six clusters or families. To see which ones you are *attracted to*, try this PARTY exercise:

Below is an aerial view of a room in which a two-day (!) party is taking place. At this party, people with the same or similar interests have (for some reason) all gathered in the same corner of the room -- as described below:



1

Which corner of the room would you instinctively be drawn to, as the group of people you would most *enjoy* being with for the longest time? (leave aside any question of shyness, or whether you would have to talk with them.) Write the *letter* for that corner in this box: ☐

2

After fifteen minutes, everyone in the corner you have chosen, leaves for another party cross-town, except you. Of the groups *that still remain* now, which corner or group would you be drawn to the most, as the people you would most *enjoy* being with for the longest time? Write the letter for that corner in this box: ☐

3

After fifteen minutes, this group too leaves for another party, except you. Of the corners, and the groups, which remain now, which one would you most enjoy being with for the longest time? Write the letter for that corner in this box: ☐

APPENDIX F

COAT OF ARMS

COAT OF ARMS

Without concern for artistic results, fill in the six areas of the drawing below to make your own personal "coat of arms."

Draw two things you do well.	Draw your "psychological" home or the place where you feel at home.
Draw your greatest success in life.	Draw the three people most influential in your life.
Draw what you would do with one year left to live.	Write the three words you would like people to say about you.

APPENDIX G

FIELD SURVEYS

FIELD SURVEYS

The best source of information about a career is a person engaged in that career. Thus, getting out and talking to people is an important activity for information gathering not only for determining which area to pursue, but also for determining specifically which organizations you'd like to eventually approach about actual employment.

Some questions we suggest you might include in your surveys are:

1) What is your work environment like?
2) In what other settings do people in your occupation work?
3) What personal characteristics does it take to perform your work?
4) What kind of preparation is needed and how long does it typically take someone to gain entry into your occupation?
5) What are your major responsibilities?
** 6) What do you enjoy about your work?
** 7) What do you dislike about your work?
8) What factors should be considered by a person who is considering your occupation?
9) What personal needs are met through your current occupation?
10) What kind of life-style does your occupation offer you?
11) What is the future employment outlook for people in your occupation?
12) What is the range of pay for people in your occupation?
13) What factors or information did you consider when you were choosing this occupation?
14) In your current occupation, what importance do you place on working with data, with people, and with things?
15) What are the most stressful aspects of your work?
**16) Who else might it be helpful for me to talk to about this area?
**17) What would you recommend to someone who is considering this occupation?

**These are must questions.

After each field survey, you should respond to each of the following:

A) Position of person to whom I talked.
B) Name of the organization for which the person works.
C) How did you hear of this person?
D) How did you gain access to this person; i.e. what reason did you give to convince the person she/he should talk to you?
E) What information were you seeking?
F) How helpful was this person?
G) What other leads did this person give you?

!!!REMEMBER: IT IS MANDATORY THAT YOU WRITE A BRIEF FOLLOW-UP THANK YOU NOTE!!!

BIOGRAPHICAL SKETCH

Cherrine Pace Finch was born in Coalville, Utah. She received her elementary and junior high education in Utah. After her ninth year of school her family moved to Las Vegas, Nevada where she completed her high school education at Western High School. She attended Brigham Young University for three years then married and moved to Kansas. In 1983 she entered Ottawa University where she received her Bachelor of Arts degree in elementary education in 1986. In 1987 she enrolled in Ottawa University's Master of Arts, Human Resources program. Cherrie is currently the Director of Ottawa University's Career Center. She and her husband Gene have four children and reside in Peoria, Kansas.