1973

A Survey of Career-Vocational Development Practices in the Junior High School Science Curriculum of Selected Iowa Schools

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A SURVEY OF CAREER-VOCATIONAL DEVELOPMENT PRACTICES IN THE JUNIOR HIGH SCHOOL SCIENCE CURRICULUM OF SELECTED IOWA SCHOOLS

An Abstract of a Thesis

Submitted

In Partial Fulfillment

of the Requirements for the Degree

Specialist in Education

UNIVERSITY OF NORTHERN IOWA

by

David Eugene Mitchell

August 1973

ABSTRACT

The objectives of this study were (1) to reveal the status of career-vocational development practices taking place now in the junior high school science departments of Iowa, (2) to describe the type of career-vocational development experiences being offered to approximately 55% of Iowa pupils in grades 7, 8, and 9, and (3) to identify the amount of emphasis being placed upon career-vocational development education at these grade levels of the science curriculum.

The principal method used was a questionnaire survey. This was carried out by mailing a 74 item questionnaire to 137 junior high principals. Replies totaling 119 were returned (86%). The population sampled represented 53.7% of the total number of students in Iowa public junior high schools.

The significant findings were (1) more career-vocational emphasis is occuring in the science area than any other subject matter area, (2) a rather small number of schools (21%) are following the IOWA HANDBOOK plan of career education provided by the Iowa State Department of Public Instruction, (3) a director of the career-vocational development programs was designated by 40.3% of the schools in the survey, (4) of the schools surveyed 12.6% reported a full-time director for their career-vocational development program, (5) a small amount of money (3.3%) of science budgets are allocated for career-vocational development emphasis within the science classes, (6) providing literature and general testing were the two major career-vocational development functions of the

guidance staff in the schools surveyed, (7) over half (58%) of the schools studied indicated that none of their science instructors were well qualified in career-vocational development education, (8) more science teachers were qualified in the area of agriculture, fishing, forestry, environment, ecology than any other general occupational area, (9) exploratory work-study programs are offered by almost no (6.7%) Iowa junior high schools, (10) over three fourths (78.2%) of the schools provide no job site visits for their science students, (11) only 12.6% of the schools utilize classroom guests from the world of work, (12) nearly half (47.1%) of the schools reported career-vocational development emphasis for the handicapped pupils (including special education), (13) more schools reported girls in shop classes (19.3%) than boys in home economics courses (16.8%), (14) science clubs were reported by 48.7% of the schools, (15) group guidance, films, recordings, bulletin boards and displays were reported to be the most successful career-vocational development activities, and (16) vocational agriculture is offered at only 1 grade level (9th) and was reported by 24.4% of the schools.

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has been approved as meeting the thesis requirement for the Degree of Specialist in Education

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ACKNOWLEDGMENTS

This investigation would not have been possible without the help and cooperation of many people. The author would like to express his appreciation for all of this assistance. First of all, in the planning of the study Dr. Donald L. Hanson, Professor, in the Department of School Administration and Personnel Services, University of Northern Iowa. University staff members and students who assisted in the design and content of the instrument. A special thanks to Dr. Gerald Hansen, Science Department Chairman of the Mason City Community School District who offered many helpful suggestions. Valuable suggestions were given by Mr. W. O. Schuermann, Director, Career Education Division of the Iowa Department of Public Instruction and Dr. Cliff E. Helling, Director of Vocational Education, Robbinsdale Area Schools, Robbinsdale, Minnesota.

The principals of 119 junior high schools who completed questionnaires deserve appreciation. The author is especially grateful to Mr. Henry Anderson, Principal, John Adams junior high school, Mason City, Iowa who assisted with general arrangements in providing ample time for the completion of this project.

Finally an expression of thanks to the members of the thesis committee for their assistance, patience, and understanding.

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Chapter 1

INTRODUCTION

Statement of the Problem

The problem of the present study was an identification of the career-vocational development practices and activities used in science courses in Iowa junior high schools.

Limitations

The present study was limited to those schools organized on a K-6-3-3 basis. Only public school districts as recognized by the Iowa State Department of Public Instruction were included. All schools in Iowa meeting these two criteria were surveyed.

Purpose of the Study

The present study was designed to: (1) reveal the status of career-vocational education practices taking place now in junior high school science departments, (2) describe the type of career-vocational experiences being offered to approximately 55% of Iowa pupils in grades 7, 8, and 9, and (3) identify the amount of emphasis being placed upon career-vocational education at these grade levels of the science curriculum.

Importance of the Study

The percent of pupils in grades 9-12 who terminated their education in Iowa's public schools during the 1970-71 school year was

17.5% higher than the previous year. A total of 1,006 students in Iowa's public schools terminated their education at the 9th grade level in 1970-71.[2] (See Appendix E.) Nearly 2.5 million students leave the formal education system of the nation each year without adequate preparation for working careers.[9] At the same time, there is a serious shortage of skilled and semi-skilled workers. According to the National Advisory Council on Vocational Education, more than 2 million jobs are going begging while "the educational treadmill continues to turn out students who are untrained, unskilled and unemployable."[9]

Background of the Problem

Some in the elementary and secondary schools do not accept the concept of career education (development) as being a worthy mission of the school to the degree that they do general education. As a ramification of this problem there are positive signs of a dual school system evolving in our society. This movement discriminates against a large number of students. This is economically untenable, and is grossly inefficient in expediting the educational process.[18] In 1970 Marvin Feldman said:

> We can no longer tolerate an educational system (1) that ignores the world of work, (2) where occupational studies are considered inferior to general studies, and (3) where youngsters in vocational tracks do not receive the training necessary for entry into college and those in college preparatory tracks are denied a vocational experience which relates their living to reality.[18]

Dual schools within our public schools (academic versus vocational) as well as outside the public schools (vocational schools and federally-sponsored vocational programs through business as opposed to our "college" network) offer the evidence that we do not provide for

comprehensive educational needs of our citizens but put them in dehumanizing tracks that discriminate socially as well as educationally.[18]

Robert Yager, professor of science education at the University of Iowa, stated during a speech at the University's annual conference on school administration and supervision in 1970, the general theme that the shiny new science programs installed in American schools during the 1960's are obsolete now. Now that the United States has met the challenge by putting men on the moon the focus is on social and environmental problems and students consider physics about as irrelevant as Latin. The old programs in science are not relevant or useful. We must study science with an emphasis on social problems, without the traditional disciplines. The problems of disease, pollution and social degredation are not solved in isolated disciplines. We must keep in mind that what is done in the research laboratory is not necessarily what is good for schools. We need a science that is concerned with living and with what happens in society. We need an emphasis, not on how data is secured, but on how data can be used.

Some Iowans are showing growing concern that many high school graduates are not prepared to enter the labor market upon graduation from high school. The student who graduates or who stops school training is often inadequately trained for entry into any job field, or has no specific plans relative to his work role in society. If the student enters college after twelve years of schooling he is frequently not equipped with the skills and finances required for further training. Others are not prepared for the world of work when post high school training is terminated.

Leaders in education on the federal level are concerned with the existing general education programs.

> We cannot risk longer this bitter experience of perhaps 50% of our young people - black and white - completing school with a euphemistic "general" education that has no relevance to college, little relevance to job entry, and no relevance whatever to the young person in school. The emergence of the comprehensive high school, properly defined and implemented, carries the ultimate solution to this problem. Among the radical changes that may derive, if we truly mean to take the problem seriously, is the feasibility of having every high school student engaged for at least a semester in a genuine work-study program giving dignity and worth to work in its largest sense. Somewhere down this road the term "relevance" may find its place in the high school program.[23]

Fifty-five percent of the 1970 crop of high school juniors in the United States said lack of interest in their school work made it difficult to concentrate on their studies at least half the time. Ten years ago, 49% of America's eleventh-graders said the same thing.[16]

Unfortunately, says the American Institute for Research,[16] the instructional program in the nation's schools ". . . has improved very little in its quality and effectiveness . . ." in a decade. The institute conducted the 1970 survey. The polling in 1960 was done by a national study called Project Talent.[16] Some other comparisons between the two surveys: 1970 juniors scored an average of 32.8 on a reading comprehension test, 1960 juniors scored 30.8, 23% of 1970 juniors said their course work would be of little value to them, and 28% said so in 1960.[16]

Historical Background of Career Education

Virtually every concept which is presently embodied in career education has been advocated at some point in American education. This is not to suggest that such concepts have either been operationalized or

tested in practice. Nevertheless, philosophical support for the major elements of career education has historical roots, if not evaluative, validity.

Most of the elements of career education have their beginnings in the early efforts to embody industrial education and, somewhat later, vocational guidance in the public schools. Both vocational education and vocational guidance were direct responses to preparation of manpower occasioned by the rising industrial character of the U.S. in the late 1880's and 90's as well as the first two decades of the twentieth century.

Advocacy of vocational education and vocational guidance has largely been precipitated by economic and industrial needs rather than personal or individual needs, although there have been social reform and social welfare threads running through advocacy of these services. It is apparent that at the present time, as was true in the past decade, this situation has largely reversed with individual needs being considered the major base from which educational programming must begin.

Until approximately 1960, concern for the vocational needs of individuals was reflected principally in providing different categories of vocational training. To a high degree, the categories of vocational training were defined by occupational or industrial needs or, in some cases, inertia. Thus, persons needed to be fitted to programs rather than programs fitted to persons. Since 1960, however, increased attention has been focused on the needs of special groups of persons--i.e., the disadvantaged, the handicapped, the academically retarded--as well

as the affective dimensions of employability as reflected in terms such as vocational identity, vocational maturity, and vocational decision-making.

Although there were antecedents in life adjustment and progressive education positions prior to 1960, since then increased emphasis has been focused on the prevocational elements of decision-making and preparation to be found in the elementary, middle or junior high school educational levels. Equally important has been concern for the vocational implications held by post-secondary education, including collegiate education, for adults and out-of-school youth. Together these elements have constituted support for articulating, from the kindergarten through post-secondary education, a series of increasingly complex educational experiences which would be available to all students, to out-of-school youth, and to adults. Further, these experiences are seen as requiring not only vocational preparation in a continuum from job entry to highly complex technical skills but also vocational guidance in a continuum oriented to prevocational and educational awareness, attitudinal development, awareness of personal strengths, and potentialities as well as the development of decision-making abilities.[19]

Objectives of Career Education

> The State Board of Public Instruction has designated Career education as an imperative educational need in Iowa, and has established the strengthening of career education programs and services as a major goal of education in Iowa.
>
> Therefore, it is the objective, of the State Plan for Vocational Education to assist educational agencies in Iowa to initiate, maintain, extend, and improve programs of career education, and to provide part-time employment for youths who need the earnings from such employment to continue their vocational training on a full-time basis. Career education is directed toward <u>all</u> ages in <u>all</u> communities of the State, beginning with elementary children and including persons such as those in high school, those who have

completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market, but need to up-grade their skills or learn new ones, those with special educational handicaps, and those in postsecondary schools. It is intended that these people have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.

Some career education experiences are presently being offered in Iowa, which have not received recognition or funding through the State Board of Public Instruction. Limited funds and the lack of identification procedures have hampered efforts in the past to provide identification and support to all of these career education efforts. The career education division, Iowa Department of Public Instruction, is committed to gaining greater support and identity for career education programs, services and activities in Iowa. The Career Education Division encourages the development and implementation of career education programs, services and activities which prepare or upgrade people in occupational fields such as agriculture, distributive, health, consumer and homemaking, home economics related, office, and the trade and industrial occupations. Specific occupations in these fields vary in the scope of knowledge and competencies required of employees. Career education programs prepare semi-skilled, skilled, technical and paraprofessional workers. Specific encouragement is given to career education offerings designed for new and emerging occupations. The Manpower Development and Training Act also provides occupational education under regulations from the U.S. Office of Health, Education and Welfare, administered through MDTA, State Department of Public Instruction.[6]

Compulsory Education and the General Curriculum

In most parts of the United States students are required to attend school from the age of about 7 to 16. Compulsory attendance laws have remained essentially unchanged for the past 50 years. During this period the actual average age of leaving school has increased more than two years. When increasing the age of compulsory attendance has been proposed, the principle opposition has come from school superintendents. They maintain that keeping unwilling students in school longer would increase discipline problems and that no change in compulsory attendance laws should be made until the schools have an opportunity to develop

courses which meet the needs of such students. Similar arguments were advanced 50 years ago when the age of compulsory attendance was increased from 14 to 16.

Over two-thirds of school dropouts are either in or expect to be in the general curriculum. Most school dropouts occur at age 16, but with the exception of programs in agriculture and home economics, almost all vocational education also begins at age 16. This may indicate either that the prospect of being able to enroll in vocational education is not sufficiently attractive to keep students in school, or that the student realistically expects that he will not be allowed to join the 25 percent of high school students who can be accommodated in vocational education programs. In any case, because he has dropped out before his vocational education begins, it is highly unlikely that the student will acquire any saleable skills before leaving school.

Despite this lack of saleable skills, many dropouts succeed reasonably well, particularly if they are white males. One reason may be that dropouts occur throughout the school year and the competition for entry level jobs is lowest during the school year. If schools were to spread the time of graduation throughout the year, this advantage to the dropout would disappear, and the problems facing the unskilled would become even more severe.

Simply increasing the age of compulsory attendance would result in more students being graduated from the general curriculu. This is the curriculum in which they are enrolled at the time of dropping out, and it is the only curriculum in which most of them would be allowed to continue. If increased opportunities were available in vocational curricula or if the general curriculum was made more meaningful,

increasing the age of compulsory schooling might be more attractive and feasible. If the school encompassed within its scope alternative external learning experiences, through work experience, travel, etc., returning to the classroom when appropriate, the incidence of the dropout and the need for compulsion might both be relieved. The choices seem to be: either provide saleable skills to potential dropouts prior to age 16 or increase the attractiveness and usefulness of continued enrollment.[11]

Understanding the Choice Process of Adolescents

In the modern world the making of choices has become a more and more important aspect of an individual's life. As society becomes increasingly complex and the rate at which social change occurs accelerates, more alternative courses of action confront each individual at each decision point in his life, and such decision points come more often. The miner's son no longer needs to enter the mine; the farmer's son may be required to deal with a multiplicity of city jobs instead of continuing in a path marked out for him. As transportation and communication become ever faster and more efficient, people and ideas from many parts of the world jostle one another wherever one lives. Instead of clinging with unthinking loyalty to the faith of his fathers, a young person must confront the fact that there are many other faiths and values that also command men's loyalty. Marriages are no longer arranged by parents in accordance with well-defined standards. Instead, the boy or girl is expected to choose a mate, and the range of possibilities from which such choices can be made is constantly widening, as marriages between individuals of different social classes, different religions, different countries, and different races are tolerated if not

approved. Decisions in the realm of moral and ethical behavior are increasingly likely to involve a choice between several alternative courses of action rather than between simple black and white right and wrong acts.

It could be argued that all of these varieties of choice have confronted individuals at all periods of history. Young people have often left the beaten path to follow unusual careers. Statesmen have always had to struggle with complex moral choices. Individual men and women in many societies have married persons of their own choosing. The new thing in our time is not that such choices occur, but that they are being required of everyone, whether or not he wishes to make them. It is possible to see some of the major problems of our time as outgrowths of this demand of anxiety and conflicts over identity in the individual, blind conformity, apathy, or delinquency in the group. Life no longer presents to the growing individual a clear, coherent structure into which he can fit his ideas; he must create one himself.

Furthermore, the accelerating pace of social change means that no choice an individual makes can ever be final. It is estimated, for example, that because of repeated technological advances serving to make some jobs obsolete, the average person must expect to work at as many as six different occupations during his lifetime. He must also expect to move fairly frequently. It is reported that every year one person in five now changes his address. Each move calls for choices about housing, neighborhoods, and schools as well as jobs. To a considerable extent, the same demand for repeated choices characterizes the other areas we have discussed. While it is still rare to find a man who marries six times, it is a fact documented by extensive divorce

statistics that many persons do choose mates two or three times, and because of the possibility of divorce in our society, even husbands and wives who stay together in many cases must repeatedly choose to do so rather than take their union for granted.[37] Similarily, ethical and moral choices must constantly be reevaluated in the light of increasing knowledge and new social conditions. What young persons need is not just to make a good choice but to learn how to choose. This may well be one of the principal challenges that education in the future must meet and in essence is the challenge that the current programs of career-vocational development are aimed to meet.[22] In this paper the making of choices, as such, was not emphasized but instead emphasis was upon the experiences and the career-vocational development teaching practices that junior high students in Iowa are being offered.

Rationale for the Selection of Specific Developmental Teaching Practices

The purpose of developmental experiences is to help the individual develop openness to and control over himself in relation to the world of work. The emphasis is on the individual. Although development is similar for all, it proceeds at different rates. It is essential that the levels of experiences be interpreted as continuous, overlapping stages rather than discrete intervals. As Zaccaria (1970) has pointed out, "The unfolding of an individual's career development beginning in early childhood is seen as relatively continuous and long term, but divided into stages or life periods for purposes of description and study."[32]

Tasks or practices themselves are not independent entities, rather they are interrelated both horizontally and vertically. Awareness

of self at the primary level is related to acquiring a sense of agency, also at the primary level, as well as to developing a positive self-concept and clarification of a self-concept at the intermediate and junior high levels.

Career-vocational development stages and life physiological and intellectual development stages are sequential but cannot be directly tied to chronological age. While it may be possible to accelerate, or decelerate, the accomplishment of certain developmental stages, this may not be desirable. There seems to be what Piaget terms the "optimal time" for accomplishing tasks, a time when learning is easiest and most efficient. Havighurst calls this the teaching moment, "when the body is ripe, and society requires, and the self is ready to achieve a certain task."[32]

The Development Level of the Junior High Years

During the years from seventh through ninth grade the individual undergoes great changes physically, intellectually, and socially. He must come to accept himself as an entirely different person outwardly and inwardly. According to Erikson, his major concern during this period is identity. He enters Piaget's formal operations stage in which "he develops the capacity to operate on hypothetical propositions." He has learned to think logically and abstractly. The vocational development stage, says Hershenson (1968), is that of independence. Cysbers states that the individual is able to cope with cultural and environmental demands, make internal interpretations of environmental transactions, and then generalize these interpretations to other situations (1969).[32] Concepts which have been acquired previously are used to build further

concepts. Daws (1970) supports Erikson, saying "the dominating task of the adolescent years is achievement of a sense of personal identity."[32]

Clarification of a Self Concept

Super states that "self-concepts begin to form prior to adolescence, become clearer in adolescence and are translated into occupational terms in adolescence (1963)." The individual is in Super's exploratory stage of vocational development, and explores self-attributes and dimensions of the world of work. He must reinterpret the self-concept he developed earlier in terms of his "new" self.[32]

Assumption of Responsibility for Career-Vocational Planning

At this level, usually for the first time, the student has a choice in some of his curricula. He combines his sense of agency with the discipline of work to assume responsibility, not just verbally, but in actual course selection. This task is highly interrelated with acquiring a sense of independence. If he allows others to choose his course work he remains dependent in at least this respect.[32]

Formulation of Career-Vocational Hypotheses

These are tentative choices and great care must be taken to avoid pressuring a student into a particular career at this point. This task is designed partially to narrow the range of the student's occupational interests, but it is primarily aimed at making him familiar with the factors and processes involved in choosing careers. These hypotheses should be consonant with his own values, needs, and abilities as identified in the clarification of his self-concept, yet they must remain open to unidentified and/or undeveloped interests and abilities.

Further, as Simons (1966) points out, the attack until now has been to examine the life process to attempt to explain the "why" of vocational choice. The existentialist is suggesting that one examine the career choice to explain the mystery of the life process.

The individual should be aware that there is some evidence that the career forms the self in much the same way that the self determines the career.[32]

Acquiring Knowledge of Occupations and Work Settings

At this level the student extends his focus from workers and their work to some of the more complex attributes of occupations. He should examine the work a man does not just to be able to describe the overt nature of the work, but to determine the subtler factors involved in work satisfactions and rewards. More and more he should look for what he personally would find necessary, important, and valuable in work. Again, great care should be taken to avoid over-rapid specialization on the part of the student. In the normal course of development he still has a great deal of social and physical changing to do which could very well affect his interests and abilities.

Acquiring Knowledge of Educational and Vocational Resources

Metheny (1969) defines one function of the middle school as helping students choose and locate appropriate curricula or jobs. The emergence of what Piaget calls formal operations allows the adolescent to think about his thoughts, to reason realistically about the future (Elkind, 1968). This task is designed to give the student the information he needs to make realistic and open-ended choices.[32] Vriend suggests the likelihood that most individuals can fill any one of an inestimatable

number of unrelated occupational roles and are only limited in doing so by exigencies of time, place, socioeconomic circumstances, and the effects of environmental conditioning including that which occurs in school.[32]

Awareness of the Decision-Making Process

Since the student will continually be making decisions it is necessary to help him develop effective decision-making skills. Career development takes place within the framework of a changing society and rapidly changing occupations. Tiedeman states that "the compromise inherent in discovering and nourishing the area of congruence of person and society as expressed in an individual's behavior is effected within a set of decisions."[33] Graff and Mclean suggest that "vocational decision-making is an on-going process of making choices, obtaining new information and experience, revising previous choices, and making new choices." The student usually has his first opportunity to make decisions which will directly affect his career at the junior high level, so it is essential that he become aware of the process involved.[32]

Acquiring a Sense of Independence

Hershenson (1968) suggests that at this stage the adolescent's psychic and physical energy is primarily directed towards establishing independence. Allport (1955) speaks of a set of forces which "have their origin within the individual and emphasize self-expression through uniqueness and individuality."[32] As the student's range of activities increases, his dependence on the home is weakened.[32] This task is directly tied in with the preceding one. Having learned what he can do, the student must decide what he will do. He is learning to be independent

of adult control and guidance.[32] If he is successful in making his own decisions, his self-concept is strengthened and he is aided in establishing a separate identity.[32]

Definitions

Career-vocational development. Career-vocational development is self development viewed in relation with choice, entry, and progress in educational and vocational pursuits.

Junior high school. Junior high school will include grades 7, 8, and 9.

Career development concept. The career development concept is the theory dealing with career development including all components and ramifications thereof. Career development concept could be envisioned as a continuum from content (teaching the world of work) to process (using the world of work to test and reflect subject content).

Career development. Career development is a process of growing and learning about self and how an individual relates to the career roles played out during one's lifetime.

Career education. Career education refers to either world of work content taught or the processes of career development used to teach school subjects. We have access only to parts of the process of career development and students are ready for various content only as they develop in the educational system. Those components we use or teach from the world of work may be termed career education.

Vocational education. Vocational education is the saleable skill component of career education.

General career education parameters.

1. Career education enhances, rather than supplants, all educational programs. It serves as a vehicle to improve the learning process.

2. Vocational education is an important part of career education, but career education is not synonymous with vocational education. Vocational education is the saleable skill component of career education.

3. Career education should be an integral part of the present structure of all schools.

4. Career education involves all subjects, all students, and all educators.

5. The implementation of career education is dependent upon the commitment from all levels of the community, government, and institutions of higher education.

6. Career education involves extensive orientation and exploration of occupational opportunities.

7. Career education emphasizes individualized instruction and student involvement in career attainment.

8. Career education humanizes the educational process as it encompasses the self concept and its relation to the world.

9. Career education is a continuum that begins with preschool and extends throughout formal employment as well as other associations in the environment.

10. Career education contributes to student incentives, aspirations, and achievements by providing a reality-based, human frame of reference for the learning of content material.

11. Career education includes specific preparation for occupations through vocational education or other appropriate educational experience.

12. Career education develops realistic mature occupational choice.

13. Career education promotes positive attitudes toward all useful work including psychologically rewarding endeavors.

14. Career education permits each student to realistically asses personal attributes as a part of setting life goals.

15. Career education provides a means of articulation from grade to grade and level to level.[18]

PROCEDURE

The Population Sampled

All school districts were polled that are organized on a K-6-3-3 basis, as reported in the 1970-71 Data on Iowa Schools, Part I. There are 85 such districts. One mailing was made to each junior high principal. (See Appendix A.) The total enrollment of grades 7 through 9 in these 85 districts is 80,398. The total enrollment for the entire state, grades 7 through 9, is 149,380. This selected population represented 53.7% of the total number of students in the state at junior high grade level. There are 453 school districts in the state (1970-71). The sample represented 18.7% of the school districts in the state of Iowa.

The total number of individual junior high school attendance centers contacted was 137. Data was obtained from the building principals by way of a questionnaire.

The questionnaire consisted of 30 comprehensive questions. For the purpose of analysis these questions were separated into 74 separate variables. A follow-up mailing was used to achieve the relatively high percentage of returns. (See Appendix B.) Replies totaling 119 were received from 137 principals, representing 86% of the questionnaires mailed out.

THE EXPERIMENTAL DESIGN

The various phases of the research process can be brought under control by a design plan. The design plan used for this study was a "after-only" study without controls. Treatment of the data is descriptive in nature with attempts to attribute findings to associated variables. As such, this is actually a study of what exists at the time of the study. This is an over-all plan often used in education for assessment studies, status studies, and some case studies.

Advantages and Limitations

The survey or descriptive study is a process for learning pertinent information about an existing situation. The principal device for gathering data from people involved is by the questionnaire or from summaries of available documents.

The survey frequently becomes more than a mere fact-finding device. It may result in important hypotheses or conclusions that help to solve current problems, and it may provide basic information for

comparison studies and for identifying trends. They also help to pool divergent ideas, techniques, and bits of information, thus throwing light upon existing conditions in need of change and improvement.

A limitation of the survey design is that it can tend to be composed of a loose confederation of several cells of ideas related or unrelated to each other. This characteristic lends to a study the impression of size and quantity which might seem to the reader more convincing than valid. Herein lies perhaps the major limitation of this type of design.

Chapter 2

SURVEY OF RELATED RESEARCH

Research on Vocational Maturity

One of the most influential ideas in occupational psychology since World War II has been the proposition that vocational choice is a process of development involving successive stages rather than a single event. Large-scale research programs based on this point of view are in progress at Harvard Graduate School of Education. The particular study to which the present one is most clearly related is reported by Super and Overstreet.[31] Super's Career Pattern Study enrolled practically the total population of eighth and ninth grade boys in the schools of Middletown, New York, during 1951-52 in a comprehensive study, using tests, interviews, and observational techniques. The plan calls for periodic follow-up studies over a twenty-year period. The purpose of this first analysis of the information obtained about the boys in the original ninth grade sample was to determine how vocational maturity, the key concept in vocational development theory, could best be assessed. Twenty possible indices were correlated with one another and those selected that formed a coherent, meaningful cluster. What the six finally selected seemed to involve was orientation toward choice. Persons high on these indices showed some awareness that choices would be required of them and some evidence of planning and information seeking. Vocational maturity in the ninth grade thus appeared to consist of one general factor, planning orientation, and three group factors which contribute

differently to the four indices. These group factors reflect tendencies to focus on different time periods in the present and approaching life stages.

Research on Vocational Interests

In a longitudinal study of the development of children's interests over the 12-year age span from 6 to 18 Tyler (1964) suggested that the motivational patterns measured in adults by interests tests like the Strong Vocational Interest Blank tend to stabilize in individuals by the 14-year level, but that "interest" is perhaps too narrow a word to describe them--that different individuals may use a variety of controlling organizations or "programs" to govern the selection and rejection of possibilities with which they are confronted.[38]

Research on Self Concept and Needs as Factors in Vocational Choice

Super (1953) hypothesized that vocational choice is simply an extension of one's self concept or perhaps more precisely, the implementation of one's perception of self in a real life situation. He further indicated that the translation of the self concept into a vocational choice takes place primarily during adolescence. O'Hara and Tiedeman (1959) investigated the implication of Super's statement with regard to vocational choice. Basically, their approach was to investigate the relationship between aptitude, interest, social class, values, and the person's evaluation of his position in each of these areas. If Super's concept accurately reflects what actually occurs in the developmental process, estimates of reality should increase as the adolescent's age increases.[38]

Research on Adolescent Development

Volumes have been written about adolescence by poets and psychiatrists alike. Although there exists a great deal of knowledge about adolescence in general, relatively little is known about helping the individual adolescent.[28] Still less is known about helping him in the occupational area. This insufficiency of knowledge becomes particularly acute when one deals with the normal adolescent who is never seen by a psychiatrist or a family caseworker. Josselyn[21] lists a number of characteristics that are common to young people in our culture. Josselyn finds that (a) most adolescents are engaged in a struggle for independence and oppose vigorously the protective rule of the adult group, (b) the "peer" group dominates his thinking, (c) his sexual behavior is confusing to the observer, the choice of his love object being unpredictable and changeable, (d) his verbalizations and his actual behavior are often in contradiction to each other, (e) his relationship with others is unstable. Love and hate may become interchanged at a moment's notice, (f) his attitude toward his parents may vacillate between rejection and idolization, and (g) the adolescent is secretive about himself and his feelings, but he may bare his soul to the chosen few, revealing dreams, guilt, and conflict. These inner turmoils lead to insecurity[38] as well as a revolt against "infantile conscience."[38] The latter, however, enables the adolescent to renounce his unrealistic fantasies and to plan for the future in terms of his abilities and the opportunities of reality. It is against such a conflicting background that one must attempt to understand the dynamics of guiding adolescents toward suitable careers.[38]

Research of What Factors Affect the Patterning of Careers

In a study[30] two propositions were formulated with respect to the dynamics of career patterns.

Proposition 1. The direction and rate of the vertical movement of an individual from one occupational level to another is related to his intelligence, parental socioeconomic level, status needs, values, interests, skill in interpersonal relationships, and the supply and demand conditions in the economy.

Proposition 2. The occupational field which the individual enters is related to his interests and values, the identifications he makes with parental or substitute role models, the community resources he uses, the level and quality of his educational background, and the occupational structure, trends, and attitudes of his community.

Research in Predicting Satisfactory Careers

In another study[38] three propositions were set forth.

Proposition 1. Although each occupation requires a characteristic pattern of abilities, interests, and personality traits, the tolerances are wide enough to allow both some variety of individuals in each occupation and some diversity of occupations for each individual.

Proposition 2. Work satisfaction depends upon the extent to which the individual can find adequate outlets in his job for his abilities, interests, values, and personality traits.

Proposition 3. The degree of satisfaction the individual attains from his work is related to the degree to which he has been able to implement his self-concept in his work.

The Nature and Characteristics of Emerging Career Education Curriculum

Reinhart[27] has stated that the careers curriculum emerging today is a response to political pressures which are sustained by problems not likely to diminish. From a national perspective education has become increasingly dysfunctional. It has failed to respond to the emerging technology that has created a new relationship between man and his work, and does not satisfy the educational demands for national survival. Our present educational system contributes to the pool of the unemployed, fails to meet the needs of the nation's minorities, and has accentuated community concerns by its own inner strife and strained community relations. Career education is seen as a practical solution to these national problems.

The emerging careers curriculum is organized around a functional priority of life roles (careers). The vocational career provides the central focus of the careers curriculum; although other careers involving the family, social and political life, advocational pursuits, and the regulatory functions of aesthetic, moral, and religious concerns are also considered necessary to an adequate careers curriculum. Whatever else it is, the emergence of the careers curriculum is a socially and politically conservative phenomenon which affirms the role of social maintenance for the public schools.

The emerging careers curriculum purports to integrate the entire school curriculum--academic, general, and vocational--in such a way that all education will be functionally related to the performance of career roles. In its attempt to create a functional unity, it must confront the long-standing strife between educators over the education of the "specialist type of man" and the older, "cultivated man." The strategy,

however, is not to force confrontations between traditionally incompatible disciplines, but to combine the pedagogical heritage of the past and the technical sophistication of the present to create a unified educational system that has a relevant academic curriculum and a humanistic vocational one.

In attempting to develop stable work personalities, career educators are challenged by social stratification systems. Although these systems fulfill integrative and instrumental roles for society, they are also based upon an interaction of internal differentiation and evaluation. This differential ranking between roles often creates dissatisfaction in occupations with lower status. Because the careers curriculum is functionally linked to social stratification through occupational identities, it will serve an important social maintenance role if it successfully generates satisfaction of career roles in all participating parties.

Career educators are assuming the responsibility of career accountability for all the nation's youngsters through career preparation and placement of all existing students. This goal must overcome the problems of grossly inadequate vocational programs and facilities and the lack of existing system of career education. The placement of students must deal with the resistance to allocating students to entry-level or terminal programs and the special problems of the disadvantaged.

The careers curriculum is based upon a developmental concept. If they are successful, career educators will demonstrate an integrated, developmental curriculum which will help students fuse their self-concepts, knowledge of environmental options, and acquisition of requisite skills into meaningful, satisfying careers. The developmental concept draws

heavily from vocational guidance theory, permeates the curriculum and the instructional programs, drastically alters the role of the counselor, and relies upon the total school staff for its implementation.

The decision to install a careers curriculum requires an entirely new relationship between school and community. This relationship demands an open administrative point of view which eliminates the barriers between school and community and encourages a thorough, two-way flow of communication. It goes beyond "public relations." To install a careers curriculum, school systems are dependent upon community acceptance, facilities, and manpower.

The installation of a careers curriculum requires long-range, comprehensive planning. It is an innovative effort of greater complexity and magnitude than most school districts have ever attempted. However, no school system should attempt it without first considering the scope of the task, their available resources, and their system's capability to manage it.

Problems in Organizing Career Education Programs

Smith[29] summarized some of the following problems related to organizing career education programs. Generic to local school districts are many problems any time a change is attempted. We are still in process, but it is safe to say that some observations can be made as we monitor ourselves along the developmental line. The key points which are thought to be important include:

1. interim and task force organizational structures and linkage related issues,

2. staffing model problems including the difference between utilizing existing staff or recruited staff (internal vs. external staffing),

3. continuity of organizational operations and maintaining expertise roles,

4. role conflict and the problem of alienation of the school principal,

5. teacher issues and teacher groups, and

6. community issues, particularly minority concerns.

Professors of educational administration could be of help to districts in the process of developing and implementing a program of career education.

The Emerging School-Based Comprehensive Education Model

Miller[24] states that career education appears to be a durable concept. Preliminary research data indicates that students, educators, and the public enthusiastically support its concepts as few other educational ideas have been supported in the past. Through its relevance and delivery system, the democratic educational system and the comprehensive high school can become a reality.

During the next several years it is anticipated that career education will undergo a metamorphous. It will change form from an aggregation of attractive but disconnected concepts into a series of operational programs and support systems. As these programs are tested and refined, the most viable activities will be forged into cohesive career education programs--tailored to meet the needs of the individual community. It is the identification of these viable activities the present study attempts to bring to public attention.

Miller also states as local education programs change to accommodate career education concepts, the administrator's role must change. Similarly teachers, counselors, and support systems personnel will find themselves doing different tasks, and teaching different materials in different ways. As the need for trained personnel arises, some mechanism will be developed to meet that need.

At the present time, with career education in an embryonic stage, this preparation of professional personnel will be accomplished through special in-service programs. However, for the concept to grow and flourish into a wave of career education programs that can be implemented throughout the country, colleges and universities must accept this training responsibility through the updating of preservice teacher education programs.

Implications for Career Education of Research and Theory on Career Development

Osipow[25] indicated the most important implication that a perusal of the career development literature leads to is the need to develop programming which is not too rigid or too tightly conceived. Rigid educational programming all too often is likely to lead to a poor fit between the individual and the skills he acquires through his training, especially in view of the changeability and continuing development of personal attributes of youngsters in the high school years. When educational programming is too tight it frequently does not provide outlets in a program which does not fit his characteristics. Such circumstances are likely to be the breeders of high drop-out levels, wasted training, and graduates with no saleable skills, or, skills they will not use. For years university programs have been accused of such

wasteful programming; the criticism is likely to aptly apply to the secondary level school as well.

The new idea of career education versus vocational education implicitly recognizes the developmental nature of careers, because it builds in the notion that changes occur as a function of growth and maturity. Career education curriculi become progressively more specific as time goes on, but during the early and critical years permit considerable opportunity for program changes that reflect changes in the individual.

The new career education ideas also recognize another important aspect of career development theory; that is, importance of the attitude of young people toward making and implementing educational and vocational decisions. Since career education begins with kindergarten age children, the very early and crucial years can be spent not in leading the child to develop a specific vocational preference, but rather to help him develop certain fundamental attitudes which will enable him to make necessary decisions later on in a more suitable manner. Skills can be recognized and developed, and attitudes toward oneself in various work settings can be explored. General attitudes toward work itself can be elicited, shaped, refined, and internalized, all of which will permit the individual to potentially deal more effectively with the vocational development tasks at the time when these become more insistent and overt. Finally, Osipow[25] states that both the literature in career development and the programs developing in career education relate to one another in that they both view all education as fundamentally career education, though specific skills may be emphasized at different times, depending upon the nature of the emerging career.

In a culture where it is possible to see increasing numbers of people engaging in serial or multiple and second careers, it must be recognized that it is not realistic to expect an individual to choose a career in ninth grade, to train for it, and assume that the issue is forevermore closed. The work of Super shows us that this is not so in the data based on his Career Pattern Study. Career development is a lifelong process. At first blush, this situation looks like it presents a serious problem to the educator who tries to plan programs for the high school and junior high school youth, but Cooley's[13] data, indicating the stability of field preferences during the high school years suggests a way out of this dilemma by means of education through occupational clusters, the heart of the Office of Education career education programs that are emerging today.

Super has written extensively about how career development may be corrected if it has gone astray or how it may be facilitated in the normally developing individual. The vocational development tasks enumerated by Super point the way to programmatic and individual approaches to correct and facilitate career development. According to Super, specific programs for adolescents should expose them to the necessary information for making the decisions required of them at that stage of development in order to avoid future errors or to correct past decisions. All through the life cycle programs may be developed to enable people to make these decisions on a more sound basis.

Tiedeman[33] and his colleagues, Tiedeman and O'Hara,[35] Tiedeman and Dudley,[36] have also speculated systematically about career development. Their wide-ranging concepts include:

1. The evolution of vocational identity is dependent upon early childhood experiences with the family unit, the psychological crises as defined in terms of Erikson's [15] constructs, encountered at various developmental stages and the agreement between the society's meaning system and the individual's meaning system.
2. The intimacy of self-concept and career concept is to be considered.
3. Individual personality is shaped by perceptions of career choices and to some degree by the individual's conformance to the norms and values of those persons already established within the vocational setting.
4. A view of career development life stages can include two gross substages: anticipation of or preoccupation with career goals and implimentation or adjustment. Each of these has substages. The substages of the former include exploration, crystallization, choice and clarification. The substages of the latter include social induction, reformation and integration.
5. Career development is a continuing process of differentiating ego identity.
6. The school system or guidance methods can order the stages of career development and personal trends can be given new direction or even reversed.
7. The individual's perceptual structure of work is the gyroscope directing his career.
8. The power of an individual's purpose to shape choice and action must be realized.
9. Careers are apparent by grade nine, the rudiments of them earlier.
10. It is possible to choose educational and vocational pursuits on a rational basis, when one chooses on a rational basis he has opportunity to lay out alternatives, to assess both wishes and risks, to examine favored alternatives, and to construct a definition of himself in situations which guide his pursuit of the elected course.[36]

Gribbons and Lohnes,[17] as a result of a seven-year longitudinal study of career development of 111 boys and girls from eighth grade until two years after high school, were able to add some theoretical validity to the work of Super, and to Tiedeman. In particular, they contributed the following concepts:

1. That girls and young women have careers just as do boys and young men.
2. Many students are ready for vocational planning in the eighth grade or before.

3. Different patterns of career processing exist in different persons. Included are:
   a. Constant Maturity: Consistent, persistent, realistic pursuit of the first stated goal.
   b. Emerging Maturity: Passage through the stages and tasks of Super's developmental model.
   c. Degeneration: Progressive deterioration of aspirations and achievements, accompanied by frustration and loss of status.
   d. Constant Immaturity: Persistent fixation on fantastic, unrealistic goals with no advances in achieved level.
4. Vocational maturity is a most meaningful developmental concept, it is convergent with the passage of time, it is persistent over time, and it is differentiated into a multi-dimensional syndrome of traits, the kernel of which is informed planfulness.

Foundations for Career Education

To identify conceptual elements and trends leading to career education so that assumptions which the term represents are clear to program developers and decision-makers, an analysis was made of available historical, philosophical, conceptual, and theoretical literature. The analysis offered substantiation that the antecedents of career education reside in both vocational education and guidance, and that the term "career education" so far as it is presently articulated, does have significant support from these knowledge domains. During the past century, much of the support for the antecedents to career education

has come from the needs of a labor market changing from an agricultural to a technical character. A review of existing projects reveals that only a few meet the levels of integration, synthesis, or longitude now expected of career education. There has been more emphasis on career programs at the elementary and junior high levels than at the senior high school level or beyond. The evolution of career development theories has stimulated programs of a prevocational character placed earlier in the life of children. Many research requirements are being stimulated by career education.[19]

A Comparison of Two Methods of Teaching Life Career Planning to Junior High School Students

In an effort to find a better way to help students make educational and vocational decisions, this study compared two methods of teaching life career planning to junior high school students. Following the "Nonequivalent Control Group" design, the study involved an experimental group being taught by means of the Life Career game and a control group being taught by a teacher-directed method using traditional materials. Pretest and posttest measure of subject content, attitude, and critical thinking abilities were obtained using instruments as a Semantic Differential, the Life Career Inventory, and the Watson-Glaser Critical Thinking Appraisal. Also, a retention test was administered 23 days after the posttest. Based on the analysis of data, a major conclusion of the study included: (1) the Life Career game is no more effective than traditional methods in assisting students to learn subject matter, (2) simulation is more effective than traditional methods in changing attitudes and for retention of subject matter, and (3) neither method was effective in improving critical thinking ability.[14]

The OCCUPAC Project

During Phase I of a two-phase project, 15 OCCUPACS (learning activity packages) were developed, pilot tested in a university laboratory school, field tested in four public school systems, revised, and submitted to professionals for final review. Intended to provide occupational information to children in grades K-9 at different levels of difficulty, each OCCUPAC contained multi-media materials in the form of slides, tapes, equipment, and materials used in different occupations, decision-making simulation activities, and other props. Conclusions resulting from Phase I activities were: (1) students seem to prefer using the OCCUPACS on an individual or small group basis, (2) other occupational information activities such as field trips should be included into the OCCUPAC program, (3) teachers using the OCCUPACS need instruction concerning individualized instruction, career development, how to use information techniques with the packages, and counseling, interviewing, and listening techniques, (4) more OCCUPACS representing a variety of occupations should be developed, and (5) effective pre-service and inservice procedures need to be developed for orienting teachers and counselors to K-9 occupational information.[26]

A Curriculum Model for Rural Areas

A career education project can provide significant improvement in efforts to humanize, individualize, and make more relevant the educational process. This was the indication resulting from a project conducted in the Lincoln County Schools, Hamlin, West Virginia, under the sponsorship of the U.S. Office of Education. This program was begun in Grade 1 and continued through Grade 12. It was specifically developed for a rural,

economically depressed area, and the program included structuring of basic subjects around the theme of career opportunities and requirements in the world of work. The four main segments of the curriculum of this model are: (1) career awareness--grades 1-6, (2) career orientation--grades 7-8, (3) career exploration--grades 9-10, and (4) career preparation--grades 11-12. Project results included: (1) the formation of an advisory committee, (2) new vocational facilities, (3) development of annotated bibliography of locally produced materials, (4) implementation of career awareness component in seven pilot schools, (5) diffusion of innovative techniques, (6) development of occupational knowledge tests, and (7) development of career education models. This project strongly indicated that some teachers are having problems correlating existing disciplines with occupational study. This findings led to the recommendation that teachers use career education materials to supplement existing texts.[20]

Current Iowa Projects in Career Education--Grades 7, 8, and 9

There are several Iowa school systems conducting research and developing Career Education programs. These projects are currently in progress and therefore are not completed. Some of the school systems that are specifically working with the junior high age student and their purpose are summarized as follows:

School: Monticello Community School District

Purpose: To provide to students expanded knowledge and information about careers, to reduce annual dropout rates in grades 7-9, to develop realistic student self evaluation and to develop student ability to select vocations and courses of study.

School: Central Clayton Community School District

Purpose: This project will focus on the development of learning experiences that will help the student develop a more positive self-concept in relationship to more knowledge about the world of work. Grades K-12 are involved.

School: Central Clinton Community School District

Purpose: To disseminate the philosophies, ideas, and career development learning activities which have been developed and accumulated in the carrying out of Project W.O.R.K. (Work Opportunities Research for Kids) at Dewitt, Iowa, in 1971-72.

School: Des Moines Community School District

Purpose: This project is designed to establish a Youth Employment Program for the city of Des Moines. This program is an expansion of the previously established Career Placement Center which was established to provide an employment service to high school youth of the Des Moines area. Youth between the ages of 14 and 21 are involved in this study.

School: Iowa City Community School District

Purpose: To provide continuity between the elementary approach and secondary approach to the study of occupations by developing resource units to complement 7th and 8th grade curriculum offerings in the activity approach. Included is the development of a program for student investigation of their curriculum.

School: Keokuk Community School District

Purpose: The overall emphasis of this effort is to show evidence of more self-understanding of goals, aspiriations, and needs by correlating school achievement, I.Q. and achievement test scores, self-esteem inventories, lists of interests, aptitude test results, with the information about the world of work.

School: Ottumwa Community School District

Purpose: The purpose is to provide career related instructional activities and work experience for disadvantaged students. The plan involves students working part-time in the school building. This program provides an adjusted academic program for disadvantaged students. It provides vocationally oriented classes. The programs provides opportunities for part-time work experience within the schools.

School: Sioux City Community School District

Purpose: Purpose here is to provide activities in industrial arts specifically for special education students (male--grades 7 and 8). Included in this program for the male junior high student is career activities in automotive repair specifically for special education students in grades 8 and 9.

Since these Projects will require at least one more year for completion, no conclusions, new findings, or suggested outcomes are published as yet.[4]

Precise and current information about how 7-9 students are being assisted with their career-vocational development in the overall school curriculum is sparse.

Dr. Downs stated in 1973* that to his knowledge there was no record of therefore no ready source available which would describe the career-vocational practices which are currently in use throughout Iowa in the junior high school science courses.

This lack of available information about specific and current career-vocational practices in the junior high school science courses has been the major impetus for this study.

Chapter three (data) reveals the main findings of a state-wide survey of these career-vocational development practices.

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*Telephone conversation of May 25, 1973, with Dr. Gary Downs, Iowa Department of Public Instruction, Curriculum Division.

Chapter 3

DATA

A questionnaire was designed to inventory a sampling of the career-vocational education practices in selected Iowa junior high schools. Questionnaires were mailed to 137 junior high school principals. The number returned totaled 119. This return represented responses from 86.8% of the selected schools. All school districts were polled that were organized on a 6-3-3 basis, as reported in the 70-71 Data on Iowa Schools, Part I.[1] There were 85 school districts in Iowa that met this requirement. The total enrollment of grades 7-8-9 in these 85 districts (70-71) was 80,398. The total 7-8-9 enrollment for the entire state was 149,380. There were 453 school districts in Iowa (70-71). The sampled enrollment represented 53.7% of the Iowa students. The sampled number of districts (85) represented 18.7% of all Iowa school districts.[1]

In the following tables only the most significant responses are listed. A table of all responses is included in the Appendix H. The data has been organized into 12 related categories. The responses are indicated by actual number of schools and the corresponding percent of the total responding schools (119).

At the time of the study there were a total of 28 Iowa Career Education Projects underway in selected schools in Iowa. Reference to these studies appear in the Review of Related Literature.[4]

Table 1 shows the schools in Iowa that have at the time of the study an organized program of Career Education (as described by the IOWA HANDBOOK--a supplement to the state plan for the administration of Career Education) 1971.[6] As indicated in Table 1, 94 schools out of the 119 surveyed are not using the state plan to any significant degree. The indication might mean that an inadequate amount of time has elapsed since the recent emphasis of career education began. It should also be remembered that there are 28 different Iowa schools currently engaged in several unique types of career education projects. Conducting a pilot project would in many cases prevent a school from using the IOWA HANDBOOK[6] plan of career education as outlined therein.

Table 1. Schools Using the Iowa Plan of Career Education as outlined in the Iowa HANDBOOK a supplement to the State Plan for the Administration of Career Education, 1971

Number of schools responding	Percent of the total schools responding (119)
25	21

Table 2 shows the amount of science class time, on a yearly basis, used in a planned career education context. The majority of schools (62.2%) surveyed indicated a small amount (5% or less) of science class time used for emphasis of career education. This table indicates that much greater emphasis of career education is occurring in Iowa junior high schools through the science classes than in any other curriculum area. The only other way emphasis might be made which is not revealed in Table 2 would be in group guidance sessions, and this was

shown in only 18.5% of the schools surveyed (see Table 10). A very small number of schools reported career education emphasis in the mathematics, English, music, social studies, and shop classes.

Table 2. The Amount of Class Time Used for Career Education in Science and Other Subject Areas

Subject area		Number of schools responding	Percent of the total (119)
Science classes	5% or less	74	62.2
	6% to 10%	11	9.2
Mathematics classes	"small amount"*	19	16.0
English classes	"small amount"	19	16.0
Music classes	"small amount"	18	15.1
Social studies	"small amount"	15	12.6
Shop classes	"small amount"	13	10.9
Other classes	"small amount"	8	6.7

*The response choice provided for this question was four:
(1) small amount of time
(2) moderate amount of time
(3) considerable amount of time
(4) great amount of time

Table 3 shows the number of schools who had an employee designated specifically to direct career education activities. The general lack of career education emphasis in the junior high school curriculum could be due to the significantly few number of people assigned to directing these activities. Table 3 reveals that the majority of Iowa junior high schools have no director for career education. The extra expense for this employee

might be a reason so few are reported in Iowa schools. The availability of properly trained staff could also be a limiting factor.

Table 3. Employment of a Director for Career Education Activities

Directors time assignment	Number of schools responding	Percent of the total (119)
Employment of a director in some capacity	48	40.3
Full time director	15	12.6
Half time director	10	8.4

Table 4 shows the number of schools who specifically allocated portions of their science budget for career education purposes. Only four schools reported using any science budget allocations for career education and three of those schools indicated the amount allocated was 10% or less of the total science budget.

Table 4. Science Budget Allocations for Career Education Purposes

Budget allocations	Number of schools responding	Percent of the total (119)
Response to the general question	4	3.3
Less than 10% of the science budget	3	2.4

Table 5 shows information about kinds of involvement of guidance staff members in career education activities and the extent of their involvement. This data indicates that providing career education literature is the most significant career education role played by guidance staff members.

Less than half (40.3%) of the responding schools have certified guidance counselors on their staff.

In the opinion of the author, a counselor that has worked at some job other than school work is in a better position to relate to the world of work and 42% of the schools stated that they employed such a counselor.

Table 6 shows data about the science instructors such as their experience in jobs other than school work. 37.8% of the reporting schools stated that 1 of their science staff members had worked full time (1 year) at something other than school work. It is noted that more guidance counselors (42%) have non-school experience than do science instructors (37.8%). If experience has any value--it could be implied that counsellors are better qualified across the state in this respect than are science instructors.

Table 7 describes some of the qualifications of the science instructors. One out of every 4 schools reported that 1 of their science staff members was <u>well</u> qualified in career education. The majority (58%) of those schools surveyed indicated no one of the science staff was well qualified in career education. The same survey indicates in Table 2 that more career education occurs in science classes than in any other curriculum areas. Table 7 also reveals that more science instructors are qualified in the agriculture, fishing, forestry, environmental, and ecology area than in any other major occupational area.

Table 5. Role of the Guidance Staff in Career Education Activities

Roles	Number of schools responding	Percent of the total (119)
Provide literature	94	79.0
General testing, 7-8-9	93	78.2
Group orientation	71	59.7
Lecturing, 7-8-9	29	24.4
Assist with field trips	17	14.3
Directing vocations units, 9th grade	14	11.8
Simulation and gaming techniques	11	9.2
Assist in planning work experience programs	10	8.4
Number of guidance staff employed 1 year or more in a job other than school work:		
None	50	42.0
1	41	34.5
Number of certified guidance counselors employed on the guidance staff:		
1	48	40.3
2	48	40.3

Table 6. Data on the Science Instructors

Data	Number of schools responding	Percent of the total (119)
Number of science staff employed 1 year or more at a job other than school work:		
1	45	37.8
2	38	23.5
3	28	23.5
Number of certified science instructors employed on science staff:		
3	36	30.3
4	25	21.0
5	20	16.8
2	16	13.4

Table 7. Qualification of Science Staff Members in Career Education

Qualifications	Number of schools responding	Percent of the total (119)
Number of staff (well)* qualified in Career Education:		
0	69	58.0
1	30	25.2
Area of Qualification:		
(a) Agriculture, fishing, forestry environment, ecology	17	14.3
(b) Health, medicine, and related occupations	6	5.0
(c) Skilled, technical, engineering occupations	6	5.0
(d) Clerical, business, office, law, communications, public service, transportation	4	3.4
(e) Home economics and personal home service occupations	2	1.7

*(well) was a judgement response by the building principal

Table 8 lists the types of career-vocational experiences offered in selected Iowa junior high schools.

Exploratory work-study type of programs were reported in grades 8 and 9 only. Work-study programs were reported by 8.4% of the schools. This percent seems inadequate when compared to the fact that most school terminations occur in the 11th grade in Iowa.[2]

Over three fourths (78.2%) of the schools surveyed do not conduct science class tours to job sites, and only 12.6% of the schools surveyed have classroom guests representing the world of work.

The number of schools (12.6%) reporting girls in shop classes is about equal to the number (11.8%) reporting boys in home economics classes. The number of schools reporting 7-8 grade girls in shop classes exceeds the number of schools reporting 7-8 grade boys in home economics classes by about three percent.

Table 9 describes the extent to which handicapped (including special education) pupils are receiving career-vocation education. Less than half (47.1%) of the schools surveyed indicated career-vocational education for the handicapped pupils (including special education). A few schools (5%) reported less of this type of training for the handicapped pupils than for the non-handicapped.

Since the handicapped student will face employment difficulties not encountered by the non-handicapped graduate it would appear that the handicapped students in our schools should be receiving large amounts of effective career-vocation education to enable them to be successful citizens. The employment record of the handicapped students is reasonably good--over 27% of the total handicapped population in Iowa were employed full time in 1970 (see Appendix F).

Table 8. Types of Career Education Experiences Offered

Type	Number of schools responding	Percent of the total (119)
Exploratory work-study type of program (grade 9)	8	6.7
Area of work-study type of program:		
(1) clerical	4	3.4
(2) distributive education	4	3.4
Job site visits by science students:	17	14.3
Frequency of visits: 3 to 4 times per year	8	6.7
no visits at all	90	78.2
Science-classroom guests from the world of work:	15	12.6
Number of guests per year most frequently reported (3)	4	3.4
Occupations area represented by classroom guests:		
Agriculture, fishing, forestry, environmental, ecology	22	18.5
Girls participation in shop work classes (7-8-9)	23	19.3
Boys participation in home economic courses (7-8-9)	20	16.8

Table 9. Extent of Career Education for Handicapped Pupils (Including Special Education)

Amount of emphasis	Number of schools responding	Percent of the total (119)
Career education emphasis for this group	56	47.1
More emphasis than given to non-handicapped	28	23.5
Less emphasis than given to non-handicapped	6	5.0

Table 10 lists the relative success of several types of career-vocational education practices as judged by building principals.

About half (48.7%) of the schools surveyed offer a science club activity to their students. The science club activity is often very career-related and would appear to the author as being a very influential factor in a student's career-vocational development. The science club of a general nature was the type most reported (26.1%). The second most often reported science club was photography (10.9%).

Table 10 also shows the types of career-vocational education activities judged by the building principals to be the most successfully used in the science curriculum. Three types of activities were listed with equal frequency as follows:

(1) group guidance sessions with a counselor (18.5%)

(2) films & recordings illustrating various occupations (18.5%)

(3) class projects, such as bulletin board displays, exhibits of locally made products, etc, (18.5%).

The author feels that assessing student interests and vocational plans aids the maturation of an individuals career development and this practice was reported in 15.1% of the schools.

It appears significant that no one practice seemed to be the successful practice.

Table 10. Successful Career Education Practices Used in the Science Curriculum

Types of Practices	Number of schools responding	Percent of the total (119)
Science clubs:	31	26.1
(1) General, science club (7-8-9)	13	10.9
(2) Photography (7-8-9)	8	6.6
(3) Ham radio (7-8-9)	2	1.7
(4) Ecology (7-8-9)	2	1.7
(5) Geology (7-8-9)	2	1.7
Total		48.7
Types of career education activities judged by the building principals to be MOST successfully used in the science curriculum:		
(1) Group guidance sessions with a counselor	22	18.5
(2) Films and recordings illustrating various occupations	22	18.5
(3) Class projects such as bulletin board displays, exhibits of locally made products, etc.	22	18.5
(4) Survey of student interests and plans	18	15.1
(5) Class visits to police, water, and fire departments, etc.	14	11.8
(6) Assembly programs dealing with the world of work	10	8.4
(7) Reading books on different occupations within the local community	10	8.4

Table 11 indicates the number of schools that offer vocational agriculture training to its students. About one fourth (24.4%) of the schools surveyed offered 9th grade level vocational agriculture.

The wisdom of Iowa districts offering vocational agriculture seems clear when this fact is considered: over 91% of the students who terminated vocational agricultural programs who reported they were employed full time were employed in Iowa (1970) (Appendix D). Of these students reporting they were not employed (1970), only 7.96% indicated they were actually seeking employment. The largest single reason given for unemployment was "In educational program," Appendix D. This would indicate that the "holding power" of vocational agriculture courses is good since the number of all pupils terminating public school in grades 9-12 is increasing, Appendix E.

Table 11. The Extent of Vocational Agriculture Course Offerings

Grade level	Number of schools responding	Percent of the total (119)
Vocational agriculture (9th grade)	29	24.4

Table 12 shows the extent of utilization of educational T.V. as a planned part of the career-vocational education activities. Schools indicating the use of educational T.V. in this way was 6.7%.

Table 12. Utilization of Educational T.V. for Career Education

	Number of schools responding	Percent of the total (119)
Educational T.V. used for career education purposes	8	6.7

Chapter 4

SUMMARY AND CONCLUSIONS

Summary

This study was an attempt to identify the current career-vocational development practices and activities used in the Science courses of selected Iowa junior high schools. In addition to the types of career-vocational practices currently in use, the amount of emphasis of the reported practices was also surveyed.

A total of 1006 students in Iowa's public schools terminated their education at the 9th grade level in 1970-71. This represents a 17.5% increase over the previous year (Appendix E).

To Iowans it may also be noteworthy to observe that as a State the occupations of Iowans are changing. The total number of farms in Iowa has declined from 145,181 in 1960 to 133,190 in 1971, a decline of 8% in those years.[7]

During a similar period of time, the total number of agricultural[5] employees, 14 years old and over, has declined from 210,502 in 1960 to 141,548 in 1970, a decrease of 69,000 or 32.8%. During the same interval of time the total population of Iowa has increased from 2,757,537 in 1960 to 2,824,376 in 1970 (2.42%)[8] and the birth rate has dropped during the same years from 23.2 to 17.1 births per thousand (Appendix G).

It is evident that Iowa school leavers face a changing vocational environment and the schools of Iowa should be changing to meet the resulting needs of its students. Occupational programs are more expensive than academic programs[10] and it is ironic that the interest in these programs is occuring at the same time that financing of schools is under considerable pressure and control in Iowa.

Research Methodology

The study consisted of a 74 item questionnaire (Appendix A) which was mailed to all junior high principals in Iowa that were in a district which was organized on a 6-3-3 basis. One hundred nineteen replies were obtained from 137 principals, representing a 86% return. The schools contacted represented 53.7% of the total number of students in Iowa's public junior high schools.

This type of study was intended to provide pertinent information about an existing situation. A simile could be drawn between this study and the famous bee investigation by Karl von Frisch. In other words this study is to the career-vocational education trend in Iowa about what a scout bee is to a swarm of fellow bees after they have learned of new "nectar," its location, and distance. It is felt the study has revealed many varied techniques, pooled divergent practices, and has accurately revealed existing conditions.

Findings

Some of the prominent findings are as follows:

1. A rather insignificant number of schools (21%) are following the IOWA HANDBOOK[6] plan of career-vocational education provided by the Iowa State Department of Public Instruction (Table 1).

2. More career-vocational education emphasis is occuring in the science area than any other subject areas (Table 2).

3. A director for the career-vocational education program was designated by 40.3% of the schools (Table 3).

4. 12.6% of the schools surveyed reported a full-time director for their career-vocational education program.

5. A significantly small amount of money (3.3% of science budgets) is being allocated for career-vocational emphasis within the science classes.

6. The two major career-vocational education functions of the guidance staff are:

(a) providing literature

(b) general testing.

7. Over half (58%) of the schools studied indicated that none of their science instructors were well qualified in career-vocational education.

8. More science teachers are qualified in the area of (agriculture, fishing, forestry, environment, ecology) than any other general occupational area.

9. Exploratory work-study programs are offered by almost no (6.7%) Iowa junior high schools.

10. Over three fourths (78.2%) of the schools provide no job site visits for their students.

11. Only 12.6% of the schools utilize classroom guests from the world of work.

12. Only 47.1% of the schools reported career-vocational education emphasis for the handicapped pupils (including special education).

13. More schools reported girls in shop courses (19.3%) than boys in home economics courses (16.8%).

14. Science clubs were reported by 48.7% of the schools.

15. Group guidance, films, recordings, bulletin boards and displays were reported to be the most successful career-vocational education activities.

16. Vocational agriculture is offered to only 1 grade level (9th) and reported by 24.4% of the schools.

17. Educational T.V. is utilized for career-vocational education in only 6.7% of the Iowa junior high schools.

Conclusions

In reference to the Iowa Model (Appendix C) for career development which shows exploration of several occupational clusters with "hands-on" experiences in grades 7-8-9, it is apparent as a result of this study that an inadequate number of students are receiving "hands-on" experiences (Table 8). According to the Iowa model, experiences of this type are of value to the student throughout the elementary grades. According to the Iowa model it is necessary to provide "hands-on" experience which is broadly representative of the types of jobs available in the cluster being studied.

A second major aspect of the study was to determine the number of schools operating an organized program of career-vocational education (as described in the IOWA HANDBOOK)[6] According to the survey--only 21%

of the junior high schools could respond affirmatively (Table 1).

A third issue concerned the subject area of the curriculum where most career-vocational education emphasis took place. Science was the area most often receiving mention in this respect (Table 2).

A fourth aspect of the study revealed that most schools do not have an employee specifically assigned the task of directing career-vocational education activities (Table 3).

The role of the guidance staff was another major aspect of the study. According to the Iowa Model for Career development "hands-on" experience is considered an essential of proper career development. The study pointed out that (assisting in planning work experience programs) occurred in only 8.4% of the schools (Table 5). This would appear to be a golden opportunity for guidance staff members to contribute more to effective school programs.

An additional conclusion reached is that science staff members are not well qualified for the emphasis of career-vocational education (Table 7).

Research was carried out on the types of career-vocational education practices offered. The study indicated one great shortcoming, in the opinion of the writer, and that is that: job site visits for students are not provided for by the great majority of schools (Table 8).

Another fact brought to the surface was that science clubs are offered in about half of the junior high schools (Table 10).

A major conclusion appears to be that the amount of career-vocational education in Iowa junior high schools could be increased and improved considerably. The vehicles or structure for such

training is already built in for most schools. Vehicles such as educational T.V., science clubs, and guidance staffs already exist in many of the schools. The practice in need of most change would appear to the author to be work-study programs which are almost totally lacking in the Iowa junior high schools (Table 8).

The findings of this study must be carefully interpreted. Sampling errors were undoubtedly present in some degree and different data could probably be obtained by an instrument of varied design. However, it appears that with 86% of the questionnaires returned the data obtained gives a dependable state wide view of the quantity and types of career-vocational education practices being used in Iowa junior high schools and to some degree the quality of those practices.

If each of the 149,380 students currently in Iowa public junior high schools (1970)[3] would graduate with the firm belief that there ain't no free lunch, then Iowa would have taken a giant step toward solving one of its growing social problems i.e. work is not meaningful, not possible, and not satisfying to all its citizens.

It is the desire of the author that a survey of what we are actually doing today in Iowa schools could be a tiny step toward meeting this challenge in the state of Iowa.

> Career education can contribute to the productivity and adaptability of U.S. economy. It can help ameliorate social unrest and labor market deficiencies. Most important, it can make a substantial difference in the lives of children exploring their own potential, youth seeking an adult role, and the adults searching for a more attractive one.[12]

It is toward this ultimate destination that the present study is aimed.

Implications

1. The retraining and reorienting of many school teachers at all levels appears to be a widespread need. This new training or inservice should be in tune with state and national priorities.

2. A need for constant updating of curricula with a focus on new and emerging occupations seems to be an urgent and probably a continuing need.

3. Increased funding will be a growing problem if reform of U.S. education is to take place.

4. More cooperation and involvement of business, industry, community and political leaders will be needed to attain state and national educational goals.

5. Strong leadership for educational reform will remain a growing need if schools are to continue serving society in an effective manner.

6. Continual evaluation is needed to determine actually what is occuring in Iowa classrooms and to assess what affect these practices have on students as they move through the educational system and along the path of adulthood.

Additional Observations

The high percentage of returns (86%) from the survey seem significantly positive in some unknown way to the author. It would be encouraging to believe that one could solicit information of any kind with the same degree of willingness via other studies of Iowa schools.

Contributing factors to such a high return might include:

1. A high interest on the part of junior high school principals throughout Iowa in the subject of career-vocational development.

2. A readiness or desire to cooperate and to learn more about career-vocational development.

3. A longing or curiosity to see how ones own school procedures compare with those practices that are state wide.

The verbal emphasis being accorded the concept of "Career Education" suggests a need for continuous appraisal of existing and planned programs. The author leaves the reader with a strong recommendation for continued research on this subject, with particular emphasis on (1) the development of plans, (2) the implementation of programs, and (3) the on-going appraisal of existing efforts.

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APPENDIXES

APPENDIX A

INSTRUMENT

February 17, 1973

Dear Building Principals:

Your help is needed as part of a study being made about Career Education in Iowa Junior High Schools. This study is being conducted as one of the requirements for a Specialist degree in school administration at the University of Northern Iowa.

Attached is a questionnaire for your response and evaluation. Your frank and accurate answers will be most vital in the completion of this study.

This study deals primarily with the Career Education practices that are currently a part of the 7th, 8th and 9th grade science curriculum of all Iowa schools using the K-6-3-3 organization.

It is hoped that these replies will be returned within a week since further progress will depend entirely upon these questionnaires. Your thoughtful cooperation is urgently solicited and most appreciated.

For your convenience a return envelope is enclosed.

Thank you most kindly for your effort, suggestions and cooperation.

Sincerely yours,

David E. Mitchell

EXPLANATION:

Career Education is attracting much attention now and is being defined in various ways by different researchers. For the sake of clarity, the definition to be used throughout this study will be as follows:

> Career-Vocational Development is self development viewed in relation with choice, entry and progress in educational and vocational pursuits.

The schools being sampled in this study will not be paired with responses at any place in the study. Throughout the instrument, the practices of the current school term (1972-73) should be the basis for all responses.

In all questions where a 7-8-9 choice is provided, please circle the appropriate grade level(s).

begin on reverse side

QUESTIONNAIRE

1. Do you have at the present time operating in your Junior High school an organized program of Career Education? (as described by the IOWA HANDBOOK - a supplement to the state plan for the administration of Career Education) 1971

   ( ) yes ( ) no

2. Approximately what amount of the science class time, on a yearly basis, is used in a planned Career Education context? Circle the appropriate grade levels.

   7-8-9 5% or less 7-8-9 11% to 25%

   7-8-9 6% to 10% 7-8-9 over 25%

3. If Career Education is not a planned part of 7-9 science, please indicate the grade(s) and area(s) in which Career Education is given planned emphasis.

	Small	Moderate	Considerable	Great Amount
Mathematics	7-8-9	7-8-9	7-8-9	7-8-9
Soc. Studies	7-8-9	7-8-9	7-8-9	7-8-9
English	7-8-9	7-8-9	7-8-9	7-8-9
Shop	7-8-9	7-8-9	7-8-9	7-8-9
Music	7-8-9	7-8-9	7-8-9	7-8-9
Other (describe)	7-8-9	7-8-9	7-8-9	7-8-9

4. Do you have anyone employed specifically to direct or operate the Career Education activities in your school district?

   ( ) yes ( ) no

5. If the answer to (4) above was yes, which of the responses best describe their time obligation to Career Education?

   ( ) less than 1/4 time ( ) 1/2 time

   ( ) about 1/4 time ( ) 3/4 time

   ( ) full time

6. Do you allocate any portion of your science budget for specific Career Education purposes?

   7-8-9 yes 7-8-9 no

7. If the answer to the above (6) was yes, then approximately what percent of the science budget is spent for Career Education purposes?

List the approximate percent here 7th _____

8th _____ Total % _____

9th _____

8. Circle the items which best describe the ways in which guidance people are utilized in your Junior High School. Circle appropriate grade level(s).

7-8-9 general testing
7-8-9 directing vocations unit
7-8-9 lecture about career planning
7-8-9 provide general career literature
7-8-9 set up work experience programs
7-8-9 assist in simulation and gaming techniques
7-8-9 group orientation
7-8-9 assist with field trips
7 other (describe) _____
8 other (describe) _____
9 other (describe) _____

9. How many of your 7-9 guidance staff have been employed full time, (1 year or more) in a job other than school work?

( ) none
( ) one
( ) two
( ) three
( ) four

10. How many certified guidance counsellers are employed on your guidance staff?

( ) one
( ) two
( ) three
( ) four

11. How many of your 7-9 science staff have been fully employed (1 year or more) in a job other than school work?

( ) none
( ) one
( ) three
( ) four
( ) five
( ) six

12. How many 7-9 science instructors are employed on your staff?

( ) one
( ) two
( ) three
( ) four
( ) five
( ) six
( ) seven

13. In your judgement, are any of your staff members well qualified for Career Development education of students? (science staff only)

7-8-9 yes 7-8-9 no

14. If your answer to the above (13) was yes, in which of the following areas are they best qualified? Check only one area. Be specific by circling the actual job area.

7-8-9 Agriculture,fishing,forestry,environmental,ecology.
7-8-9 Distribution,education,entertainment,managerial,business admin.
7-8-9 Health,medicine,and related occupations.
7-8-9 Home economics and personal home service occupations.
7-8-9 Clerical,business,office,law,communications,public service,transportat
7-8-9 Skilled,technical and engineering occupations.

15. Do you offer any exploratory work-study type programs this year which permit students to work at a real out-of-building job during a portion of the school day?

7-8-9 yes 7-8-9 no

16. If the answer to the above (15) was yes, please circle the grade(s) which correspond with the occupational group(s) which your school does offer exploratory work-study experience with.

7-8-9 Agriculture,fishing,forestry,environmental,ecology.
7-8-9 Distribution,education,entertainment,managerial,business admin.
7-8-9 Health,medicine, and related occupations.
7-8-9 Home economics and personal home service occupations.
7-8-9 Clerical,business,office,law,communications,public service,transportat
7-8-9 Skilled,technical and engineering occupations.

17. Do you regularly expose students to various people at jobs via visits to the job site as a regular part of science instruction?

7-8-9 yes 7-8-9 no

18. If the answer to above (17) was yes, how many such visits are carried out per year in your Junior High?

7-8-9 1 to 2 times 7-8-9 5 to 6 times

7-8-9 2 to 4 times 7-8-9 6 or more times

19. Do you have representatives from the World of Work come to the science classroom as part of your planned Career Education effort?

7-8-9 yes 7-8-9 no

20. If the answer to the above (19) was yes, how many such visits are arranged and carried out?

7-8-9 1 time per year 7-8-9 4 times per year
7-8-9 2 times per year 7-8-9 5 times per year
7-8-9 3 times per year 7-8-9 other (specify)_____

21. From what general areas of work do you obtain classroom resource guests? Answer only if this is part of your procedure.

7-8-9 Agriculture,fishing,forestry,environmental,ecology.
7-8-9 Distribution,education,entertainment,managerial,business admin.
7-8-9 Health,medicine,and related occupations.
7-8-9 Home economics and personal home service occupations.
7-8-9 Clerical,business,office,law,communications,public service,transportat.
7-8-9 Skilled, technical and engineering occupations.

22. Do girls participate in shop work courses in your school?

7-8-9 yes 7-8-9 no

23. Do boys participate in home economics courses in your school?

7-8-9 yes 7-8-9 no

24. Are the handicapped (including Special Education) pupils provided Career Education?

7-8-9 yes 7-8-9 no

25. If the answer to the above (24) was yes, please check one of the responses below.

7-8-9 less than non-handicapped pupils.
7-8-9 same amount as non-handicapped pupils.
7-8-9 more than non-handicapped pupils.

26. Is vocational agriculture offered to any of your 7-9 students?

7-8-9 yes 7-8-9 no

27. Is educational TV used in your school as a planned part of the Career Education activities?

7-8-9 yes 7-8-9 no

28. Are science clubs (example: photography, ecology, ham radio, etc.) used in any way to contribute to Career Education in grades 7-9?

7-8-9 yes 7-8-9 no

29. Please list the names of the science-type clubs that function in your school?

7th _____

8th _____

9th _____

30. Please indicate the types of Career Education practices which, in your opinion, are the most successful in your science curriculum at each grade level.

7-8-9 Survey of student interests and plans.
7-8-9 Assembly programs dealing with the world of work.
7-8-9 Group guidance sessions with a trained counselor.
7-8-9 Vocabulary exercises based on the world of work.
7-8-9 Class plays depicting various work roles.
7-8-9 Films and recordings illustrating various occupations in your community.
7-8-9 Class visits to police, water, and fire departments, etc.
7-8-9 Reading books on different occupations within the local community.
7-8-9 Class projects - bulletin board displays, exhibits of locally made products, etc.
7 Other (describe) _____

_____

8 Other (describe) _____

_____

9 Other (describe) _____

_____

If your school has a brochure describing any special Career Education-type program which it is currently carrying out, please send a copy of it to me.

Thank you for your participation. Any additional comments or information you wish to offer are welcome.

End

APPENDIX B

FOLLOW-UP MAILING

5 March 1973

Dear Building Principal,

As follow-up to my questionnaire of February 17, which was perhaps lost or mislaid, please find enclosed another copy for your consideration. To increase the validity of my study a high percent of returns is desired. Your reply will be most appreciated. Thank you.

Respectfully

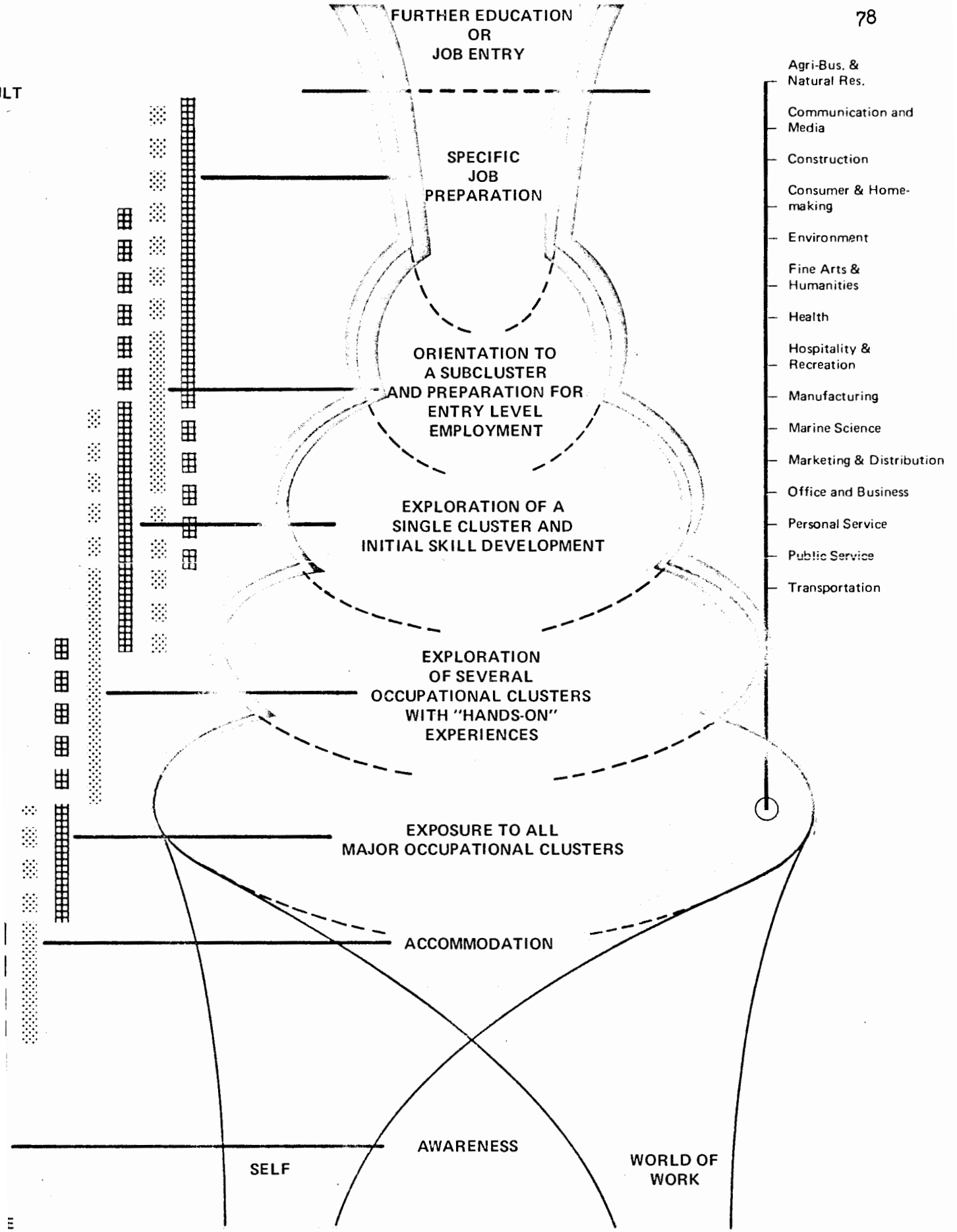
D. Mitchell

Please accept my apology if your response has already been mailed. Thank you.

APPENDIX C

IOWA MODEL FOR CAREER DEVELOPMENT

IOWA MODEL FOR CAREER DEVELOPMENT



Key to the Iowa Model for Career Education

Awareness. Activities which develop concepts of self and positive attitudes toward the world of work are the basis of later career decisions. Learning activities which develop these concepts are appropriate for us in the total curriculum during the first three years of school. For some students this phase will continue through the fourth grade. During the latter period of this phase the student will begin to recognize relationships between individuals and the various industries and occupations.

Accommodation. During the third and fourth grades the student is at a point in this development where he begins to internalize the concept of his future role in the world of work. In some situations this development might continue through the sixth grade. The integration of career education activities into the total curriculum will enable the student to develop a concept of the relationship between work and various life styles. Through appropriate learning activities the student can begin to appreciate the personal traits which contribute to the development of satisfactory working relationships. Throughout this phase, the emphasis is on the development of healthy attitudes toward all types of work.

Exposure to all Major Occupational Clusters. The integration of career information into the elementary school curriculum will permit the student to become acquainted with the types of jobs associated with each of the occupational cluster. Thus, a base will be provided which will assist the student in his future selection of occupational clusters

for exploration. This initial exploration of jobs and clusters will be directed more towards the occupational characteristics and less towards the hands on types of exploration. The development of favorable attitudes toward the value of work will continue to be emphasized during this phase of career development. This period in the career development process will normally take place during the fifth and sixth grades, but in certain situations it may continue through junior high school.

Exploration of Several Occupational Clusters with "Hands-On" Experiences. Some "hands-on" experiences are of value to the student throughout the elementary grades. The exploratory activities presented in this phase, however, usually will be provided during the seventh, eighth, and ninth grades, but for some students it may be as late as the eleventh grade. It would appear that this broad exploratory effort would be of the most benefit to the student in junior high school. This phase of career development will involve much more extensive "hands-on" work than was used during the elementary school. It is expected that six or more clusters will be selected by the student as he progresses through the junior high grades. A period of six to nine weeks may be spent by the student in exploring each of the clusters which he has selected. It is necessary to provide "hands-on" experience which is broadly representative of the types of jobs available in the cluster.

Exploration of a Single Cluster and Initial Skill Development. The exploration of a single occupational cluster will be most appropriate for the student somewhere between the ninth and eleventh grades although

in some cases the freshman in college may still be exploring a total cluster. Although this step might be bypassed by some students who progress directly from the "Exploration of Several Occupational Clusters" directly into either "Orientation to a Subcluster and Preparation for Entry Level Employment" or "Specific Job Preparation," it is needed to provide each student ample opportunity to find an occupation in which he has both aptitude and interest. In this period of career development the student will delve into a particular cluster to greater depths with the purpose of selecting the area of that cluster which best fits his individual characteristics.

Orientation to a Subcluster and Preparation for Entry Level Employment. The exploration of and preparation for an occupational subcluster will normally be provided for the student during the eleventh and twelfth grades, although a student may be ready to enter this type of program as early as the ninth grade or as late as the sophomore year of college. The exploration of and preparation for a group of closely related jobs will include an indepth study of these jobs and the development of common competencies needed for performance in these jobs, including the attitudes and personal characteristics which will assist the student in obtaining and holding a job. This phase may be bypassed by the student if he is ready to select a specific occupation and enter into training for that particular job.

Specific Job Preparation. This period of the career development process is the time when the student will be assisted in obtaining proficiency in the specific skills and knowledge which are necessary for entry into and success within a specific occupation. The activities of

this period not only will include student acquisition of skills, but also will be directed toward refining his human relations characteristics which will result in harmonious working relationships with superiors and associates alike. Although this phase may be expected to start at the twelfth grade or beyond, it may occur as early as the tenth grade for some students.

APPENDIX D

EMPLOYMENT STATUS OF STUDENTS

EMPLOYMENT STATUS AS OF OCTOBER 15, 1970, OF STUDENTS TERMINATING APPROVED SECONDARY SCHOOL VOCATIONAL-TECHNICAL PROGRAMS

	Men		Women		Total	
Employment status	Completed	Not completed	Completed	Not completed	Completed	Not completed
Employed						
Full-time in Iowa	1,696	100	1,441	47	3,137	147
Full-time out of Iowa	116	6	182	14	298	20
Total employed	1,812	106	1,623	61	3,435	167
Not Employed						
Seeking employment	81	14	345	13	426	27
Not seeking employment	1,248	177	3,442	386	4,670	563
Total not employed	1,329	191	3,787	399	5,096	590
Reason Unemployed						
Illness	30	0	8	1	11	1
Physical disability	9	0	14	3	23	3
Lack of skills	30	4	110	5	140	9
In educational program	1,017	149	2,979	312	3,996	461
Active military	235	28	15	1	250	29
Marriage	5	1	495	70	500	71
No desire to work	30	9	146	17	176	16
Total unemployed	1,356	191	3,745	396	5,096	590

This table presents the employment status of students who terminated vocational-technical programs. Over 91% of the students who reported they were employed full-time were employed in Iowa. Of those students reporting they were not employed, only 7.96% indicated they were actually seeking employment. The largest single reason given for unemployment was "In educational program."

APPENDIX E

NUMBER OF PUPILS TERMINATING SCHOOL

NUMBER OF PUPILS TERMINATING SCHOOL IN GRADES 9-12 BY ENROLLMENT SIZE CATEGORIES
1969-1970 SCHOOL YEAR

Enroll K-12	No. dist.	Grade level				Total 8-12		
		9th	10th	11th	12th	70-71	69-70	68-69
200-499	123	28	53	67	41	189	204	168
500-749	111	127	134	168	147	576	364	340
750-999	70	40	101	122	85	348	252	233
1000-1499	59	81	105	147	103	436	463	422
1500-1999	23	36	64	76	81	257	221	250
2000-2999	38	104	193	257	198	752	696	654
3000 & up	29	590	1,419	1,789	1,148	4,946	4,182	3,671
Pub. total	453	1,006	2,069	2,626	1,803	7,504	6,382	5,738
Nonpublic	278	5	10	22	26	63	82	105
Total	731	1,011	2,079	2,648	1,829	7,567	6,464	5,843

This table shows that the number of pupils terminating public school in grades 9-12 during the 1970-1971 school year has increased 17.5% over the previous year. However, nonpublic schools had a decrease of 23.1% over 1969-1970.

The greatest number of terminations were found in the 11th grade for both public and nonpublic schools.

Public schools had 3.8% of the total enrollment grades 9-12 terminating school during 1970-1971, showing an increase of 0.5%.

Information concerning termination of pupils can be found in Educational standards 3.2(20) and 3.3(15) of Iowa Code 257.27.

APPENDIX F

EMPLOYMENT STATUS OF SPECIAL NEED STUDENTS

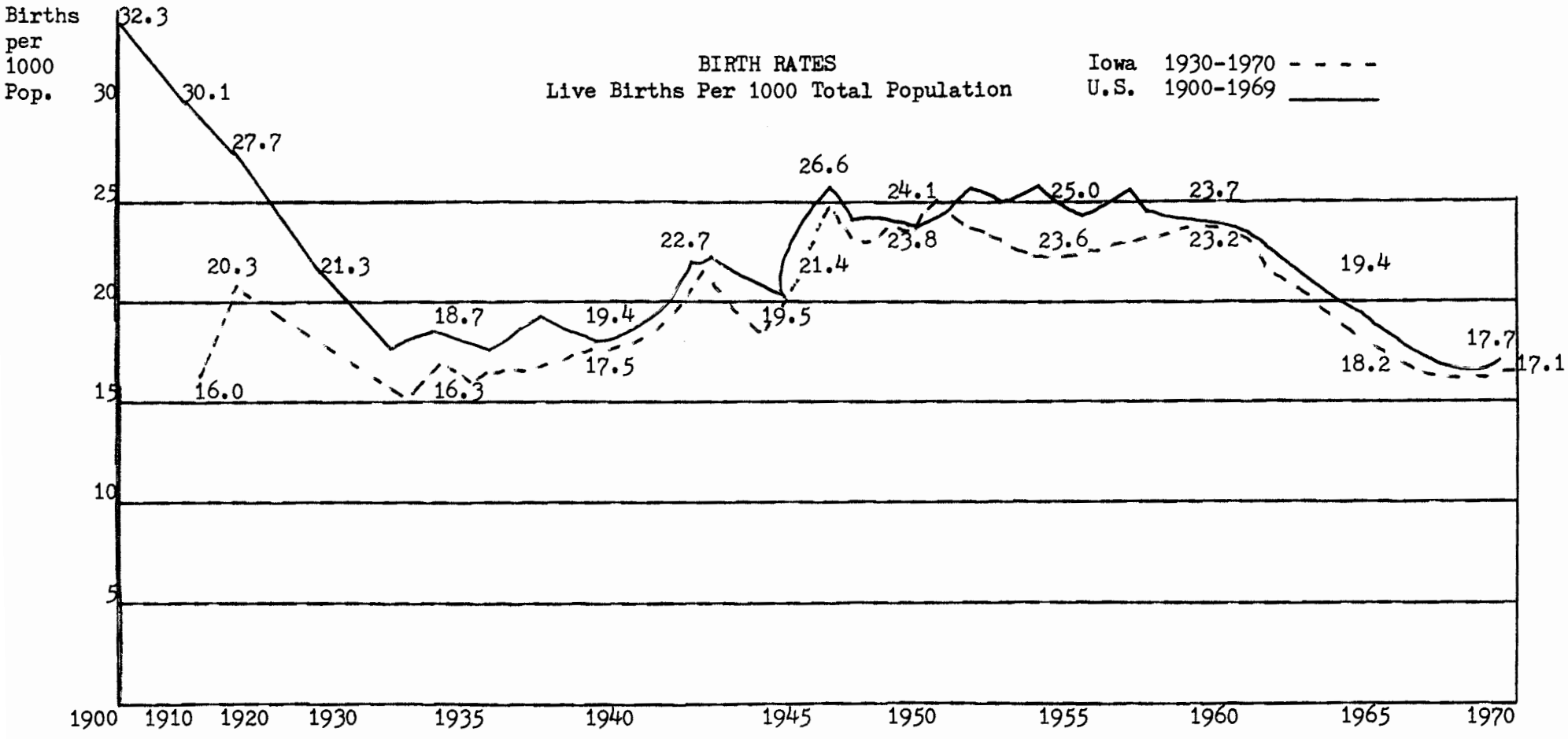
EMPLOYMENT STATUS OF SPECIAL NEEDS STUDENTS TERMINATING APPROVED SECONDARY VOCATIONAL-TECHNICAL PROGRAMS AS OF OCTOBER 15, 1970

Special needs categories	Male C	Male NC	Female C	Female NC	Total	Employment status: Full time Male	Full time Female	Full time Total	Unemployed	Cont. educ.
Disadvantaged										
Low income	79	11	94	9	193	36	27	63	75	52
Poor achiever	148	32	143	23	346	92	43	135	112	85
Culturally disadvant.	26	3	44	4	77	15	13	28	28	23
Total disadvantaged	253	46	281	36	616	143	83	226	215	160
Handicapped										
Educable mentally retarded	5	8	9	4	26	6	2	8	12	10
Trainable mentally retarded	--	--	1	--	1	--	1	1	--	--
Speech	2	1	2	--	5	2	1	3	2	1
Visually handicapped	13	--	16	--	29	5	2	7	5	7
Hearing	18	--	17	--	35	10	3	13	10	5
Physical handicap	25	2	28	5	60	6	6	12	33	31
Specific learning disability	2	--	1	--	3	1	--	1	2	1
Emotionally disturbed	10	2	10	7	29	3	2	5	10	9
Total handicapped	75	13	84	16	188	33	17	50	74	64
Total special needs	328	59	365	52	804	176	100	276	289	224

This table presents the employment status of identified special needs students who terminated vocational-technical programs. Over 37% of the identified total disadvantaged students were employed full time. Over 27% of the identified total handicapped population was employed full time. Over 77% of identified special needs students who were not employed were continuing education.

APPENDIX G

BIRTH RATES



SOURCES: U.S. Historical Statistical Atlas - 1965, p. B 19-36; Information Please Almanac, 1971, p. 665

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APPENDIX H

TABULATIONS OF ALL 74 ITEMS OF QUESTIONNAIRE

VARIABLE VAR001 PRESENTLY OPERATING JH CAREER ED PROG.

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	25	21.0
NO	91	76.5
NA	3	2.5
	119	100.0

KEY:

NA - No answer

7 - 7th grade

8 - 8th grade

9 - 9th grade

JH - 7th, 8th, 9th grade

VARIABLE VAR002 AMOUNT OF SCIENCE CLASS TIME USED IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
5% OR LESS	74	62.2
6% TO 10%	11	9.2
11% TO 25%	3	2.5
OVER 25%	1	0.8
7TH 5% OR LESS	2	1.7
9TH 5% OR LESS	4	3.4
9TH 6-10%	1	0.8
7TH 11-25%	1	0.8
7TH AND 8TH 5% OR LESS	2	1.7
8 & 9TH 6-10%	1	0.8
JH 5% OR LESS	4	3.4
NA	15	12.6
	119	100.0

VARIABLE VAR003 AMOUNT OF MATH CLASS TIME USED IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SMALL	19	16.0
MODERATE	11	9.2
CONSIDERABLE	1	0.8
7 SMALL	1	0.8
9 SMALL	5	4.2
7 MODERATE	1	0.8
8 MODERATE	1	0.8
9 MODERATE	1	0.8
7 & 8 SMALL	2	1.7
8 & 9 SMALL	1	0.8
8 & 9 MODERATE	1	0.8
JH SMALL	1	0.8
NA	74	62.2
TOTAL	119	100.0

VARIABLE VAR004 AMOUNT OF SS CLASS TIME USED IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SMALL	15	12.6
MODERATE	21	17.6
CONSIDERABLE	3	2.5
GREAT	2	1.7
7 SMALL	1	0.8
9 SMALL	3	2.5
7 MODERATE	1	0.8
8 MODERATE	2	1.7
9 MODERATE	5	4.2
8 CONSIDERABLE	2	1.7
9 CONSIDERABLE	3	2.5
8 GREAT	2	1.7
9 GREAT	3	2.5
7 & 8 SMALL	1	0.8
7 & 9 SMALL	1	0.8
7 & 8 MODERATE	1	0.8
8 & 9 MODERATE	2	1.7
JH SMALL	1	0.8
JH MODERATE	1	0.8
NA	49	41.2
TOTAL	119	100.0

VARIABLE VAR005 AMOUNT OF ENG. CLASS TIME USED IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SMALL	19	16.0
MODERATE	14	11.8
CONSIDERABLE	1	0.8
GREAT	1	0.8
8 SMALL	1	0.8
9 SMALL	2	1.7
7 MODERATE	1	0.8
8 MODERATE	4	3.4
9 MODERATE	1	0.8
9 CONSIDERABLE	1	0.8
7 GREAT	1	0.8
7 & 8 MODERATE	1	0.8
7 & 9 MODERATE	1	0.8
8 & 9 MODERATE	1	0.8
JH SMALL	1	0.8
NA	69	58.0
TOTAL	119	100.0

VARIABLE VAR006 AMOUNT OF SHOP CLASS TIME USED IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SMALL	13	10.9
MODERATE	13	10.9
CONSIDERABLE	11	9.2
GREAT	5	4.2
8 SMALL	1	0.8
9 SMALL	1	0.8
8 MODERATE	1	0.8
9 MODERATE	3	2.5
9 GREAT	3	2.5
7 & 9 SMALL	1	0.8
8 & 9 SMALL	1	0.8
7 & 9 MODERATE	1	0.8
8 & 9 MODERATE	5	4.2
7 & 9 CONSID	1	0.8
8 & 9 CONSID	2	1.7
8 & 9 GREAT	1	0.8
JH SMALL	1	0.8
JH MODERATE	2	1.7
JH CONSIDER	2	1.7
NA	51	42.9
TOTAL	119	100.0

VARIABLE VAR007 AMOUNT OF MUSIC TIME SPENT IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SMALL	18	15.1
MODERATE	6	5.0
CONSIDERABLE	2	1.7
7 SMALL	1	0.8
7 & 8 SMALL	1	0.8
8 & 9 MODERATE	1	0.8
JH SMALL	1	0.8
JH MODERATE	1	0.8
NA	88	73.9
TOTAL	119	100.0

VARIABLE VAR008 AMOUNT OF OTHER CLASS TIME USED IN CAR ED

VALUE LABEL	FREQUENCY	RELATIVE FREQUENCY (PERCENT
SMALL	8	6.7
MODERATE	9	7.6
CONSIDERABLE	4	3.4
GREAT	2	1.7
9 SMALL	1	0.8
7 MODERATE	1	0.8
8 MODERATE	2	1.7
9 MODERATE	2	1.7
9 CONSIDERABLE	2	1.7
7 GREAT	1	0.8
9 GREAT	4	3.4
7 & 8 SMALL	2	1.7
8 & 9 SMALL	1	0.8
7 & 8 CONSID	1	0.8
8 & 9 GREAT	1	0.8
NA	78	65.5
TOTAL	119	100.0

VARIABLE VAR009 HAVE SPECIFIC EMPLOYEE TO DIR DIST CAR ED

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES		48	40.3
NO		71	59.7
NA		0	0.0
	TOTAL	119	100.0

VARIABLE VAR 010 DIRECTORS TIME ALLOTMENT TIME TO CAR ED

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
LESS THAN 25		16	13.4
ABOUT 25		5	4.2
5		10	8.4
FULL		15	12.6
NA		73	61.3
	TOTAL	119	100.0

VARIABLE VAR011 ALLOCATE PART OF SCI BUDGET FOR CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	3	2.5
NO	108	90.8
7 YES	1	0.8
9 YES	2	1.7
JH YES	1	0.8
JH NO	3	2.5
NA	1	0.8
TOTAL	119	100.0

VARIABLE VAR012 PERCENT OF SCI BUDGET FOR CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
0-25	1	0.8
7 0-25	1	0.8
9 0-25	1	0.8
NA	116	97.5
TOTAL	119	100.0

VARIABLE VAR013 TOTAL PERCENT FOR CAR ED

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
0-25		6	5.0
76-100		1	0.8
NA		112	94.1
	TOTAL	119	100.0

VARIABLE VAR014 GUIDANCE PEOPLE UTILIZED FOR GEN TESTS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8		1	0.8
9		4	3.4
7 & 8		3	2.5
8 & 9		4	3.4
JH		93	78.2
NA		14	11.8
	TOTAL	119	100.0

VARIABLE VAR015 GUIDANCE PEOPLE UTILIZED FOR DIREC VOCA UNITS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SEVENTH	1	0.8
8	5	4.2
9	14	11.8
7 & 8	2	1.7
7 & 9	1	0.8
8 & 9	4	3.4
JH	15	12.6
NA	77	64.7
TOTAL	119	100.0

VARIABLE VAR016 GUIDANCE PEOPLE UTILIZED FOR LECT ON CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8	4	3.4
9	13	10.9
7 & 8	2	1.7
8 & 9	3	2.5
JH	29	24.4
NA	68	57.1
TOTAL	119	100.0

VARIABLE VAR017 GUIDANCE PEOPLE UTILIZED FOR PROV CAR ED LIT

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9	9	7.6
7 & 8	1	0.8
8 & 9	2	1.7
JH	94	79.0
NA	13	10.9
TOTAL	119	100.0

VARIABLE VAR018 GUIDANCE PEOPLE UTILIZED FOR WK EXP PRO

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SEVENTH	1	0.8
8	1	0.8
9	6	5.0
8 & 9	3	2.5
JH	10	8.4
NA	98	82.4
TOTAL	119	100.0

VARIABLE VAR019 GUIDANCE PEOPLE UTILIZED FOR HELP IN SIM

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8	1	0.8
9	5	4.2
7 & 8	1	0.8
8 & 9	1	0.8
JH	11	9.2
NA	100	84.0
TOTAL	119	100.0

VARIABLE VAR020 GUIDANCE PEOPLE UTILIZED FOR GROUP ORIEN

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SEVENTH	9	7.6
8	3	2.5
9	2	1.7
7 & 8	4	3.4
7 & 9	2	1.7
JH	71	59.7
NA	28	23.5
TOTAL	119	100.0

VARIABLE VAR021 GUIDANCE PEOPLE UTILIZED FOR FIELD TRIPS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (TOTAL)
SEVENTH		2	1.7
8		2	1.7
9		7	5.9
8 & 9		1	0.8
JH		17	14.3
NA		90	75.6
	TOTAL	119	100.0

VARIABLE VAR022 GUIDANCE PEOPLE UTILIZED FOR OTHER 7

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SERVICE COMM		1	0.8
GENER GUID		20	16.8
SECURE GUEST		4	3.4
PILOT PROJECTS		1	0.8
CAREER DIR		1	0.8
NA		92	77.3
	TOTAL	119	100.0

VARIABLE VAR023 GUIDANCE PEOPLE UTILIZED FOR OTHER 8

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SERVICE COMM	3	2.5
GENER GUID	21	17.6
SECURE GUEST	4	3.4
PILOT PROJECTS	1	0.8
CAREER DIR	1	0.8
TEACH CAR CLASS	1	0.8
NA	88	73.9
TOTAL	119	100.0

VARIABLE VAR024 GUIDANCE PEOPLE UTILIZED FOR OTHER 9

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
SERVICE COMM	3	2.5
GENER GUID	21	17.6
SECURE GUEST	4	3.4
PILOT PROJECTS	1	0.8
CAREER DIR	1	0.8
NA	89	74.8
TOTAL	119	100.0

VARIABLE VAR025 NUMBER OF GUIDANCE STAFF OTHER JOB EXPER

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
NONE		50	42.0
ONE		41	34.5
TWO		17	14.3
THREE		6	5.0
FOUR		1	0.8
NA		4	3.4
	TOTAL	119	100.0

VARIABLE VAR026 NUMBER OF CERTIFIED GUID STAFF

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
ONE		48	40.3
TWO		48	40.3
THREE		18	15.1
FOUR		4	3.4
NONE		1	0.8
NA		0	0.0
	NONE	119	100.0

VARIABLE VAR027 NUMBER OF SCIENCE STAFF OTHER JOB EXPER

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
ONE	45	37.8
TWO	28	23.5
THREE	28	23.5
FOUR	6	5.0
FIVE	4	3.4
SIX	2	1.7
NA	6	5.0
TOTAL	119	100.0

VARIABLE VAR028 NUMBER OF SCIENCE STAFF

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
ONE	4	3.4
TWO	16	13.4
THREE	36	30.3
FOUR	25	21.0
FIVE	20	16.8
SIX	12	10.1
SEVEN	5	4.2
NA	1	0.8
TOTAL	119	100.0

VARIABLE VAR029 ARE ANY OF YOUR STAFF WELL-QUAL AS CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	30	25.2
NO	69	58.0
7 YES	1	0.8
8 YES	2	1.7
9 YES	7	5.9
8 & 9 YES	3	2.5
JH YES	1	0.8
JH NO	3	2.5
NA	3	2.5
TOTAL	119	100.0

VARIABLE VAR030 AGRI FISH FOREST ENVIR ECOLO

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	2	1.7
8	2	1.7
9	4	3.4
7 & 8	1	0.8
8 & 9	1	0.8
JH	17	14.3
NA	91	77.3
TOTAL	119	100.0

VARIABLE VAR031 DIST ED ENTERTAIN MANAGE BUS ADMIN

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7		1	0.8
8		1	0.8
9		1	0.8
JH		2	1.7
NA		114	95.8
	TOTAL	119	100.0

VARIABLE VAR032 HEALTH MEDICAL RELATED OCCUP

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8		1	0.8
7 & 8		2	1.7
7 & 9		1	0.8
8 & 9		1	0.8
JH		6	5.0
NA		108	90.8
	TOTAL	119	100.0

VARIABLE VAR033 HOME EC PERSONEL SERVICES

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8		1	0.8
JH		2	1.7
NA		116	97.5
	TOTAL	119	100.0

VARIABLE VAR034 CLERICAL OFFICE LAW COMMUNIC BUS PUB SER TRANS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7		1	0.8
9		1	0.8
JH		4	3.4
NA		113	95.0
	TOTAL	119	100.0

VARIABLE VAR035 SKILLED TECH ENGINEER

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8		1	0.8
9		3	2.5
8 & 9		2	1.7
JH		6	5.0
NA		107	89.9
	TOTAL	119	100.0

VARIABLE VAR036 OFFICE EXPLOR WORK ST PROGRAMS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES		8	6.7
NO		97	81.5
9 YES		8	6.7
8 & 9 YES		2	1.7
JH NO		2	1.7
NA		2	1.7
	TOTAL	119	100.0

VARIABLE VAR037 AGRI FISH FOREST ENVIR ECLO

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		3	2.5
JH		1	0.8
NA		115	96.6
	TOTAL	119	100.0

VARIABLE VAR038 DIST ED ENTERTAIN MANAGE BUS ADMIN

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		4	3.4
8 & 9		2	1.7
JH		1	0.8
NA		112	94.1
	TOTAL	119	100.0

VARIABLE VAR039 HEALTH MED RELATED OCCUP

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9	2	1.7
7 & 9	1	0.8
JH	1	0.8
NA	115	96.6
TOTAL	119	100.0

VARIABLE VAR040 HOME EC PERSONAL SERVICES

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9	2	1.7
8 & 9	1	0.8
JH	2	1.7
NA	114	95.8
TOTAL	119	100.0

VARIABLE VAR041 CLERICAL OFFICE LAW COM TRAN PUB SER BUS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		4	3.4
7 & 9		1	0.8
8 & 9		3	2.5
JH		2	1.7
NA		109	91.6
	TOTAL	119	100.0

VARIABLE VAR042 SKILLED TECH ENGINEER

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		3	2.5
NA		116	97.5
	TOTAL	119	100.0

VARIABLE VAR043 VISITS JOB SITE PART SCI INSTRUCTION

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	17	14.3
NO	91	76.5
8 YES	1	0.8
9 YES	2	1.7
7 & 9 YES	1	0.8
8 & 9 YES	1	0.8
8 & 9 NO	1	0.8
JH YES	1	0.8
JH NO	1	0.8
NA	3	2.5
TOTAL	119	100.0

VARIABLE VAR044 NUMBER OF VISITS PER YEAR

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
1 TO 2 TIMES	5	4.2
3 TO 4 TIMES	8	6.7
5 TO 6 TIMES	4	3.4
MORE THAN 6	2	1.7
8 1-2	1	0.8
9 3-4	1	0.8
8 MORE THAN 6	1	0.8
9 6	1	0.8
7 & 9 1-2	1	0.8
8 & 9 6	1	0.8
JH 3-4	2	1.7
NA	92	77.3
TOTAL	119	100.0

VARIABLE VAR045 WORLD OF WORK GUEST SPEAKERS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	15	12.6
NO	86	72.3
7 YES	1	0.8
8 YES	3	2.5
9 YES	4	3.4
7 & 9 YES	1	0.8
8 & 9 YES	2	1.7
8 & 9 NO	1	0.8
JH YES	1	0.8
JH NO	1	0.8
NA	4	3.4
TOTAL	119	100.0

VARIABLE VAR046 NUMBER OF SUCH SPEAKERS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
1 PER YEAR	3	2.5
2 PER YEAR	1	0.8
3 PER YEAR	4	3.4
4 PER YEAR	2	1.7
5 PER YEAR	1	0.8
5 PER YEAR	2	1.7
8 TWICE	1	0.8
9 TWICE	1	0.8
7 THRICE	1	0.8
8 THRICE	1	0.8
9 THRICE	1	0.8
8 FIVE	1	0.8
7 & 8 TWICE	1	0.8
7 & 9 THRICE	1	0.8
8 & 9 THRICE	1	0.8
JH TWICE	1	0.8
JH THRICE	1	0.8
JH FIVE	1	0.8
NA	93	78.2
TOTAL	119	100.0

VARIABLE VAR047 AGRI FISH FOREST ENVIR ECOL

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
8	2	1.7
9	6	5.0
7 & 9	1	0.8
8 & 9	2	1.7
JH	22	18.5
NA	85	71.4
TOTAL	119	100.0

VARIABLE VAR048 DIST ED ENTERTAIN MANAGE BUS ADMIN

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
8	2	1.7
9	3	2.5
7 & 8	1	0.8
8 & 9	2	1.7
JH	14	11.8
NA	96	80.7
TOTAL	119	100.0

VARIABLE VAR049 HEALTH MED RELATED OCCUP

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7		2	1.7
8		1	0.8
9		5	4.2
7 & 8		2	1.7
8 & 9		3	2.5
JH		19	16.0
NA		87	73.1
	TOTAL	119	100.0

VARIABLE VAR050 HOME EC PERSONAL SERVICES

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8		1	0.8
9		3	2.5
8 & 9		4	3.4
JH		13	10.9
NA		98	82.4
	TOTAL	119	100.0

VARIABLE VAR051 CLERICAL BUS OFFICE LAW COM PUB SER TRAN

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
8	1	0.8
9	5	4.2
7 & 8	1	0.8
8 & 9	3	2.5
JH	13	10.9
NA	95	79.8
TOTAL	119	100.0

VARIABLE VAR052 SKILLED TECH ENGINEER

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8	2	1.7
9	4	3.4
8 & 9	4	3.4
JH	13	10.9
NA	96	80.7
TOTAL	119	100.0

VARIABLE VAR053 GIRLS IN SHOP COURSES

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	24	20.2
NO	55	46.2
7 YES	6	5.0
8 YES	5	4.2
9 YES	15	12.6
7 & 8 YES	3	2.5
7 & 9 YES	2	1.7
8 & 9 YES	4	3.4
7 & 9 NO	1	0.8
JH YES	1	0.8
JH NO	1	0.8
NA	2	1.7
TOTAL	119	100.0

VARIABLE VAR054 BOYS IN HOME EC COURSES

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	20	16.8
NO	57	47.9
7 YES	9	7.6
8 YES	5	4.2
9 YES	14	11.8
7 & 8 YES	2	1.7
7 & 9 YES	3	2.5
8 & 9 YES	2	1.7
7 & 9 NO	1	0.8
JH YES	1	0.8
JH NO	1	0.8
NA	4	3.4
TOTAL	119	100.0

VARIABLE VAR055 HANDICAPPED PUPILS IN CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	55	46.2
NO	38	31.9
9 YES	5	4.2
8 & 9 YES	2	1.7
JH YES	2	1.7
JH NO	1	0.8
NA	15	12.6
TOTAL	119	100.0

VARIABLE VAR056 LESS THAN NON HANDICAPPED PUPILS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
JH		7	5.9
NA		112	94.1
	TOTAL	119	100.0

VARIABLE VAR057 SAME AS NON HANDICAPPED PUPILS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		2	1.7
8 & 9		2	1.7
JH		25	21.0
NA		90	75.6
	TOTAL	119	100.0

VARIABLE VAR58 MORE THAN NON HANDICAPPED PUPILS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
JH		28	23.5
NA		91	76.5
	TOTAL	119	100.0

VARIABLE VAR059 VOCATIONAL AGRI

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES		17	14.3
NO		68	57.1
9 YES		28	23.5
9 NO		1	0.8
7 & 9 YES		1	0.8
JH YES		1	0.8
JH NO		1	0.8
NA		2	1.7
	TOTAL	119	100.0

VARIABLE VAR060 EDUCATIONAL TV PART OF CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	8	6.7
NO	101	84.9
9 YES	2	1.7
9 NO	1	0.8
8 & 9 YES	1	0.8
JH NO	3	2.5
NA	3	2.5
TOTAL	119	100.0

VARIABLE VAR061 SCIENCE CLUBS PART OF CAR ED

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
YES	31	26.1
NO	76	63.9
9 YES	2	1.7
9 NO	1	0.8
JH NO	4	3.4
NA	5	4.2
TOTAL	119	100.0

VARIABLE VAR062 TYPES OF SCIENCE CLUBS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
HAM RADIO	1	4.0
ECOLOGY	1	4.0
7 SCIENCE	1	4.0
JH SCIENCE	2	8.0
JH PHOTO	2	8.0
NA	18	72.0
TOTAL	25	100.0

VARIABLE VAR063 SUC IN SURVEY STUDENTS INTERESTS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
9	1	0.8
8 & 9	2	1.7
JH	18	15.1
NA	97	81.5
TOTAL	119	100.0

VARIABLE VAR064 SUC IN ASSEMBLIES ON WORLD OF WORK

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		4	3.4
7 & 8		1	0.8
8 & 9		3	2.5
JH		10	8.4
NA		101	84.9
	TOTAL	119	100.0

VARIABLE VAR065 SUC IN GROUP GUIDANCE

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
9		9	7.6
8 & 9		1	0.8
JH		22	18.5
NA		87	73.1
	TOTAL	119	100.0

VARIABLE VAR066 SUC IN VOCABULARY IN WORLD OF WORK

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
7 & 8	1	0.8
8 & 9	1	0.8
JH	1	0.8
NA	115	96.6
TOTAL	119	100.0

VARIABLE VAR067 SUC IN CLASS PLAYS IN WORLD OF WORK

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8 & 9	1	0.8
JH	1	0.8
NA	117	98.3
TOTAL	119	100.0

VARIABLE VAR068 SUC IN FILMS ON OCCUPATIONS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7		2	1.7
9		4	3.4
8 & 9		3	2.5
JH		22	18.5
NA		88	73.9
	TOTAL	119	100.0

VARIABLE VAR069 SUC IN CLASS VISIT TO OCCUPATIONS

VALUE LABEL		ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7		1	0.8
9		1	0.8
7 & 8		1	0.8
8 & 9		1	0.8
JH		14	11.8
NA		101	84.9
	TOTAL	119	100.0

VARIABLE VAR070 SUC IN READING BOOKS ON WORLD OF WORK

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
7	1	0.8
8	1	0.8
9	1	0.8
7 & 8	1	0.8
8 & 9	1	0.8
JH	10	8.4
NA	104	87.4
TOTAL	119	100.0

VARIABLE VAR071 SUC IN CLASS PROJECTS

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
8	1	0.8
9	1	0.8
8 & 9	2	1.7
JH	22	18.5
NA	93	78.2
TOTAL	119	100.0

VARIABLE VAR072 OTHER SUCCESSES 7

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
LAB JOB VISIT	1	0.8
OUT OF TOW	1	0.8
DISPLAYS	1	0.8
NA	116	97.5
TOTAL	119	100.0

VARIABLE VAR073 OTHER SUCCESSES 8

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
LAB JOB VISIT	2	1.7
DISPLAYS	1	0.8
NA	116	97.5
TOTAL	119	100.0

VARIABLE VAR074 OTHER SUCCESSES 9

VALUE LABEL	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
LAB JOB VISIT	4	3.4
PACKETS	2	1.7
NA	113	95.0
TOTAL	119	100.0