PRACTICES IN AND PERCEPTIONS OF SECONDARY HEALTH OCCUPATIONS EDUCATION IN THE UNITED STATES

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF EDUCATION

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF EDUCATION

BY

JEAN ALFRED PERRY, R.N.B.S., M.Ed.

DENTON, TEXAS

DECEMBER 1981

DEDICATION

I wish to express my deepest gratitude by dedicating this study to those who sacrificed the most for its completion--my daughters; Patricia Ervean Perry, Edna Jean Perry and Arvis Marie Perry. A special note of thanks to Patricia Ervean and Edna Jean Perry for their efforts in the typing of this dissertation and to Arvis Marie Perry for her efforts in the editing of this manuscript.

ACKNOWLEDGMENTS

The completion of this research study was the result of the concern and efforts of many people. All deserve and are hereby extended my sincere gratitude.

Sincere gratitude is expressed to the members of my doctoral advisory and dissertation committees, namely; Dr. Barbara Cramer, Dr. Thomas Eaves, Dr. Flora Roebuck, Dr. Clifton Sparks, Dr. Joseph Fearing, and Dr. Webb Jones. Deepest appreciation is expressed to Nancy Byrom for the final professional typing of this dissertation.

In addition to those who contributed to the completion of this study, immense gratitude is extended to those who stood beside me through the doctoral program--among those are: my friend, Sharon Foster, my sisters; Minnie Alfred Stringfellow, Olevia Alfred Messiah, Evelyn Alfred Foward, and Shirley Alfred Johnson.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Health occupations education programs at the secondary and postsecondary levels have shown a phenomenal pattern of expansion. Expansion in health occupations education programs has occurred in Texas and throughout the nation. This expansion in programs has created a corresponding demand for effective planning, organization, administration, and evaluation of health occupations education programs.

Borkovich and Welch (1975) observed that the United States has been experiencing a shortage of health occupations personnel for some years. To help alleviate this shortage the federal government has appropriated funds to establish training programs for health personnel. Such federal aid, no doubt has influenced health occupations education expansion.

The federal government has been interested in health occupations education (HOE) most of this century. Holloway and Kerr (1969) traced early federal legislation pertinent to HOE:

> Health occupations education at the vocational and technical levels began with the development of practical nurse education. After passage of the Smith Hughes Act (1917), a few local practical nursing

> programs were established under the provisions of the act, which provided for trade and industrial education (p. 3).

In 1956 Congress amended the Vocational Act of 1946, known as "Title II, Vocational Education in Practical Nurse Training." This act authorized funding "to extend and improve practical nurse training" (Administration of Vocational Education, Rules and Regulations, Bulletin No. 1, 1958, p. 36). After the passage of the Vocational Education Act of 1963 (P.L. 88-210), vocational education in health occupations was defined to include other areas in addition to practical nursing (Administration of Vocational Education, Rules and Regulations, Bulletin No. 1, 1966).

Such additional areas included funding to establish training programs for technicians and assistants in health occupations. "Until (after) 1965 health occupations education was included in industrial education" (Vocational News, Volume 1, Number 3, Winter 1978, p. 8).

The decade of 1969-1979 was one of great change in health occupations education. Change occurred as a response to such legislation as the Health Professions Education Assistance Act of 1976 (P.L. 94-484). P.L. 94-484 extended health resource training authorization through 1980 and contained elements for change to meet national needs. Karlin (1974) indicated that this act (P.L. 94-484) provided for training more primary care practitioners, which

would improve health services in certain areas. It also provided the authorization for more health education centers, which would prepare practitioners.

During the end of the 60s, an insufficient number of trained workers was identified as a major problem within health care. This problem continued throughout the decade of the 1970s. At the same time, adequate numbers of health care workers received much attention. Haddad (1978) indicated that the increased need for health care workers resulted from the medicare and medicaid legislation, the new health care technologies, the widespread utilization of private medical insurance, and the increased accessibility of medical care facilities to the public.

During the 1970s, attention was given to earlier introduction of students to the various health care careers. It was hoped that this would influence their career choice and if more students selected health occupations as a career, manpower needs would be met. A nationwide determination to implement traditionally academic concepts of career and vocational health occupations occurred during this decade. This emphasis has not solved the problem of shortages; health manpower shortages have continued into the 1980s.

"Health occupations education has become an important area of vocational education" (Burkett, AVA Journal, May 1976, p. 83). Secondary health occupations education

students can become competent health care personnel. Health occupations education programs must be relevant and effective if current employment needs are to be met. The relationship between the education of students and their ultimate functioning in the health care delivery system must be continually assessed.

The increased demand for trained workers in the health care field has continued to exist. Burkett (1976) stated "the demand for services in the health field will have the highest growth rate" (AVA Journal, May 1976, p. 83).

Milliken (1974) advocated health occupations programs that are designed to contribute to individual development through experiences which foster career awareness, career exploration, and career preparation. She stated:

> The program contributes to readiness for tentative career decisions, thereby facilitating planning related to postsecondary education, obtaining employment and/or becoming an informed client of the health service system (p. 35).

An opportunity to be "ready" to make career decisions is inherent in the concept of Career Education. This concept (Career Education) emerged during the decade of the 70s. Basically, the United States Office of Education's Career Education Model includes four basic steps: awareness, orientation, exploration, and preparation (e.g., retraining or upgrading of career skills). This school-based model's basic steps are initiated during the early

elementary school years with activities relating to awareness and followed by orientation during junior high school years. Curricula are designed to facilitate the completion of the "exploration" phase before the students have completed the tenth grade; "preparation" at the eleventh and twelfth grade. Each phase of the model is sequential and relevant. London (1973) emphasized the role of the "Career Exploratory" step:

> On the junior high school level these subjects (practical arts) are frequently offered on an exploratory basis, providing an opportunity for students to try themselves out in a number of job-related activities (p. 109).

Calhourn and Finch (1976) have also elaborated the role and importance of the "exploratory" step. They stated:

> Exploration is a crucial phase in career education. The skills and knowledge acquired during this phase become the foundation for decision making at succeeding [sic] levels. The major thrust is toward having the student explore various occupational clusters and become familiar with the preparation requirements and the educational opportunities available for obtaining the necessary training (p. 148).

"Exploration" of the many health occupations is planned for middle-school students (Calhourn 1972). In addition, many high school health occupations education programs provide opportunities to "explore" a variety of health careers by use of clinical and didactic education. This arrangement can provide opportunities for the students to learn entry-level job skills as well as to promote

career decisions. Most health occupations require postsecondary educational experiences. Required or recommended secondary education achievements are essential for admission to postsecondary programs.

Statement of the Problem

The goals and practices in secondary health occupations education programs in the United States and its territories have not been placed in a profile of national scope. In addition, the perceptions of these programs have not been identified.

Statement of the Purpose

The major purpose of this study was to identify the practices in secondary health occupations education in the United States and determine a select group's perceptions of these program practices.

Objectives of the Study

The objectives of this study were:

Stage I

1. To analyze states' and territories' secondary health occupations education documents and identify each state's practices in secondary health occupations education programs

2. To develop a format for categorizing and compiling each state's and territory's goals and practices in secondary health occupations education
3. To validate each state's and territory's compiled and categorized goals and practices by contacting each state's official admissions officer

Stage II

1. To develop an instrument designed to identify the perceptions of Secondary Health Occupations Education's goals and practices
2. To verify the national composite of practices in health occupations education by measuring the perceptions of the same by a designated group

Scope and Delimitations of the Study

A statement of practices in secondary health occupations education were obtained from each state's health occupations education administrator.

Stage I

The findings of this study are limited to the responses of state and territory officials responsible for health occupations education from each of the respective states and territories participating in the study.

Stage II

The perceptions derived from the study will be based on the responses obtained from 10 percent (250) of the 2500 American Vocational Association-Health Occupations Education members.

Significance of the Study

A need exists to establish a comprehensive description of practices in health occupations education (HOE) in secondary schools across the nation. An analysis of the nation's secondary HOE curricula, emphasis areas, prerequisites, time allocation, instructional design and setting, could offer insight for curriculum planning for the emerging health occupations. A study of this nature could be a meaningful measure for improvement and expansion of the current secondary and postsecondary health occupations education programs. The results of this study could assist health occupations education program planners with respect to meeting current and projected social, economic and personal needs of health occupations education students.

Basic Assumptions of the Study

Several assumptions were made in this study. They were;

1. All states subscribe to Part A of Title II of the

1976 Educational Amendments and submit five-year state plans as well as the annual program plans

2. The states' health occupations education administrators will have documents containing practices in secondary health occupations education programs

Definition of Terms

The following terms were operationally defined for this study:

Education

Health Occupations Education (HOE). .Comprises the body of related subject matter or the body of related courses, and planned experiences designed to impart the knowledge and develop the understanding and skills required to support the health professions (Vocational Education and Occupations, Government Print 07 00 00 00).

Health Occupations. A generic term used to include the wide range of vocations and specialties that provide health services, either directly or indirectly. For this purpose, the term "health occupations" includes all types and levels of health related positions that require less than baccalaureate degree preparation (Guidelines for Health Occupations Programs, United States Office of Education, January 1971).

Career Education. The total effort of public education and the community to help all individuals become familiar with the values of work-oriented society: to integrate these values into their personal value systems, and to implement these values in their lives in such a way that work becomes possible, meaningful, and satisfying to each individual (Hoyt 1974).

Vocational Education. Organized educational programs designed to (a) train or retrain individuals for gainful employment as semiskilled or skilled workers, technicians or subprofessionals in recognized occupations, as well as in new and emerging occupations and (b) prepare individuals for enrollment in advanced technical programs, excluding those specifically leading to a baccalaureate or higher degree (Vocational Educational Amendments 1968: PL 90-576).

Clinical Education. The portion of the curriculum carried out in a clinical setting (e.g., hospital, clinic, etc.) in which direct patient care and the provision of health care in an organized system play a major role (Allied Health Education in Texas; Guiding Concepts for the '80s).

Courses and Programs

Course. This refers to an instructional activity designed to provide specific knowledges and skills and is

arranged so that it can be completed in a specified time frame.

Prevocational. This content is intended to provide students an opportunity to gain information about and an orientation to a variety of Health Centers. Personal health will be included as well as the attribute of job worthiness.

Core or Cluster Programs. The cluster concept is based on the premise that certain occupations have common learning and skill requirements and that students who have mastered these skills have more employment options. The students rotate through a number of health occupational specialties so that they may gain general competencies in the health field and identified entry level skills for one or more areas.

Prevocational Guidance. These courses or programs offer organized activities that include occupational knowledge and general information about a variety of work settings.

Employability Preparation (any occupation). These programs emphasize activities which apply to any occupation. Examples are employability skills, occupational survival skills, career exploration, interpersonal relations, communications and vocational relationships, leadership and attitude skills, and work experience.

Occupational-Area Preparation (health occupations cluster education). These program offerings emphasize activities that increase employability in a group of health occupations which use similar knowledge, tools, materials, and methods. These activities stress development of general transferable skills.

Occupational-Specific Preparation. These program offerings increase employability in a particular health occupation but are not designed for a particular employer.

Health Care Related Sciences (no skills emphasis). These programs emphasize offerings that build the foundation for understanding the reasons for performing job tasks and making job-related decisions. The related sciences for health occupations include anatomy, physiology, microbiology, chemistry, physics, mathematics, nutrition, genetics, growth and development, mental health, and basic psychology.

Organization of the Study

This study is organized as follows:

Chapter I presents the introduction; statement of the problem; statement of the purpose and objectives; scope and delimitations of the study; significance of the study; basic assumptions of the study; definition of terms; and organization of the study.

Chapter II provides a review of the literature. The review of the literature presented in this chapter is based on key concepts extracted from the problem statement. The review of the literature relates to the states' goals and practices in secondary health occupations education. Specifically, the literature relates to the secondary HOE emphasis areas: Prevocational Guidance; Employability; Preparation; Occupational-Area Preparation; Occupational-Specific Preparation; and Health Care Related Sciences.

Chapter III describes the method and the format used for categorizing and analyzing the states' goals and practices. The verification of the perceptionnaire (instrument), the description of the subjects, the data collection procedure, the descriptive statistics used, and methods for analysis of the data are also included in this chapter.

Chapter IV includes the findings from the analysis of data from Stages I and II. The data were analyzed using the frequency count of variables and crosstabulations. Analysis of selected groups using the *t*-test are also discussed in Chapter IV.

Chapter V presents an overview of the study. The findings are discussed and summarized. Conclusions and recommendations are also offered in Chapter V.

CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this study was to identify the practices in and perceptions of secondary health occupations education in the United States. This chapter is devoted to describing and analyzing the selected review of the literature in five areas which are crucial factors in this study. These emphasis areas are: Pre-Vocational Guidance, Employability Preparation, Occupational-Area Preparation, Occupational-Specific Preparation, and Health Care Related Sciences.

After 1965, the emergence of health occupations education programs from the "umbrella" of industrial education signaled a great change in attitudes toward health occupations education. The change was effected in part (after 1965) by such federal legislation as the Health Professions Education Assistance Act of 1976 and by such trends as competency-based education and performance-based teacher education, as well as the impact of consumerism in health care education. Health occupations education programs were no longer reserved for postsecondary curricula. Instead, state departments of education across the nation engaged in occupational education needs assessment strategies designed to show the need to provide health occupations education

programs at the secondary level.

Pre-Vocational Guidance

The Wisconsin Department of Education, for example, clearly presents its rationale for developing health occupations education programs at the secondary level: "initiating health careers programs oriented toward greater awareness of the multi-various services contiguous to the health occupation" (Wisconsin Department of Education, 1972, p. 108). While the primary expressed objective of the secondary level health occupations programs is "an orientation to a health-service career rather than training per se" (p. 108), students are nevertheless provided with "exploratory" experiences that acquaint them with jobs related to the health professions. The students are able to experience the psychological meaning of work, to examine benefits of different kinds of work, and to evaluate their own qualifications, interests, and potentials for occupational programs (A Reassessment of Wisconsin's HOE 1972, ED 069 960, p. 108).

To facilitate the students' choice of career decisions in the health occupations education programs, Wisconsin provides pre-vocational programs that attempt to develop a work-discipline concept and basic job skills. At this point, vocational teachers and counselors assume the

responsibility of encouraging occupational awareness, exploration and preparation. Further, resource persons across the state staff the Wisconsin Instant Information for Students and Counselors System whose purpose is to provide job descriptions of diversified health occupations and the names of the health career representative in the eight designated districts in the state. These health career counselors--usually health professionals--offer students information and guidance in their particular health career occupation. In Wisconsin, students--upon the recommendation of an advisory committee for each area--are allowed to spend ample time (to gain insights in health occupations and the career of their choice) in cooperating health institutions in the area (Wisconsin Department of Education, 1972).

The University of California at Los Angeles' Division of Vocational Education (1972), supported by grants from the California State Department of Education and the Department of Health, Education and Welfare, created the Secondary School Allied Health Project to recruit and train workers to meet the critical shortage of trained health manpower. The project combined the students' work experiences and classroom activities to make them aware of the possible careers in the health field. Project participants included 100 tenth grade students from four area high schools who were recruited, interviewed, and selected. Parents of these

students were also oriented to the program. In addition, class schedules and academic requirements for each student were determined, and classroom teachers were selected and trained. Five hospitals agreed to serve as on-site training stations. The students' training encompassed classroom training (according to each student's specific curriculum), clinical experience, and a month-long internship in a cooperating hospital. The on-site "real" work afforded the students opportunities to experience the work role and facilitated the learning of skills and tasks, while the academic components prepared them for potential upward mobility in the health field (Barlow, et al. 1972, ED 063 476).

The significant findings of the project revealed that:

> (1) a wide range of students had had experience with health care tasks; (2) field trips were deemed a most interesting aspect of the project; (3) eighty (80) percent of the participants were able to specify a specific health occupation in which they were interested; and (4) the month-long hospital experience had the greatest influence on vocational choices (Barlow 1972, p. 98).

As Fielstra and Chrispin (1972) reported in an evaluation of Phase II of the Secondary School Allied Health Project in Los Angeles, work settings were an influential factor in stimulating students' interests in health occupations and increasing their occupational knowledge. Clinical experience as a means of getting the students into the

hospitals during the first week of school, proved to be of paramount importance. In addition to the "real life" task performances in the hospital environment, students were offered two other incentives--academic credit and a $15-a-week stipend paid from project funds. Fielstra and Chrispin (1972) revealed that most of the students had been placed in part-time jobs where their training continued. Moreover, each student could leave high school with salable skills which qualified them for at least entry level hospital employment or for college credit based on work already accomplished.

Health Occupations Education Programs in Connecticut (Avery 1975)--specifically in Hartford--are an outgrowth of Operation TACT. TACT is an educational program which begins in the seventh grade as a program of career exploration and ends in the twelfth grade with on-the-job training as well as clinical experiences for selected students. In the eighth grade, students learn and study allied health professions; in the ninth grade, they get exposure to selected health occupations. Specific training in the health professions starts in the tenth grade, and continues into the eleventh grade where concentrated skills development in a single health occupation is accomplished. At this juncture, the student engages in work and other types of "hands on" experiences designed to develop students with sufficient

skills to perform designated jobs. Thus, the allied health professions become a "learning core" for involved students whose total education is placed into an integrated relationship.

Beginning in the ninth grade, students in Operation TACT go on field trips designed as occupational explorations, trips which encourage the students to put into focus their own interests, talents, and future aspirations for a vocation in the health professions. Final vocational training, of course, comes during the on-the-job-training activities performed at cooperating hospitals or other allied health institutions. Not only are students given opportunities to experience actual work conditions, but they can also evaluate their own personal skills (Avery 1975).

Georgia's Health Careers Education Program (1973) consists of a flexible curriculum, but one that is expressly designed for secondary students who are exploring the health field as a means of clarifying personal interests and of making tentative career choices. Inclusive of all possible career options in health, the Georgia core curriculum assures students of varied interests, an opportunity to interact and to acquire broad perspectives of the health field as a group. Later, special or unique interests of each student are explored according to personalized planning for advanced portions of the program. Ideally, the

participant in the Georgia program can, upon completion of te program:

> (1) make a realistic career decision;
> (2) acquire the knowledge, skills and attitudes which will enhance his ability to find, keep and advance in a job;
> (3) demonstrate broad knowledge of the health care delivery system and of trend in health care delivery;
> (4) apply the principles of health maintenance to self;
> (5) go to work or continue the educational process through post-secondary education (Georgia State Department of Education, 1971, pp. 29-30 ED 141 568)

Presumably, the students receive pre-vocational guidance and job counseling through the three-year curriculum designed exclusively for those interested in the health professions (Ibid.).

The purpose of Texas' secondary vocational education programs is the maintenance, extension and improvement of existing programs, services, and activities along with the development of new programs and the provision of part-time employment for high school students (through the work-study program) who need the earnings to continue their vocational training on a full-time basis.

> Secondary health occupations programs in Texas (State Plan, 1979) are designed with the intent that each completing student will have achieved two major goals: (1) obtainment of sufficient information, observation, and practical experience in the range of health occupations to make an informed choice about further commitment toward a health-related career (2) attainment of knowledge and skills necessary for entry-level employment in at least one of the many occupations related to care of patients, prevention of illness, and maintenance of health (p. 1).

Furthermore, the student gains knowledge prerequisite to making informed and meaningful occupational choices, or any combination of the above skills and knowledge. At Houston's High School (Texas) for Health Professions (1975), students receive pre-vocational guidance, career orientation, and occupational knowledge in a regular academic program, while he is simultaneously exposed to health professions or allied careers and is learning some health care skills (Educational Journal, 1975, EJ 108 719).

In Missouri (1973), educators organized pre-vocational guidance activities that were open-ended in that they were designed for students to identify skills required in occupations of interest to them and to connect the skills with ones that could be acquired in school. On the other hand, Minnesota's (1973) broad objective for pre-vocational guidance was to develop the students' positive attitude toward self through an awareness of their talents, values and interests as these related to work roles. In short, the performances objective was to describe work as valuable in terms of its intrinsic satisfaction. Similarly, North Dakota's Health Occupations Education program emphasized experiences that were designed and arranged to broaden students' interests that would open up an expanded basis for vocational choice. Evans (1973) believes that if pre-vocational guidance is to reach its full potential, it must

be integrated into all subject areas. This means that not only guidance counselors, but teachers in subject matter areas not normally associated with vocational and career development must be committed to and informed about vocational and career development.

Employability Preparation

Many observers contend that academic skills and work must be treated as interrelated rather than separate. Darcy (1969) opined that the basic skills related to work success include communication skills, computational skills, manual dexterity skills, and skills in group organization and human relations. In short, he contended that employability is enhanced by the aforementioned skills, which are basic, endurable, transferable, durable, elastic, and open-ended.

In the same vein, Coleman (1972) has contended that before a student reaches age 18, the educational system ought to provide him with:

> (1) Intellectual skills, or the kinds of things that school at its best teaches;
> (2) Skills of some occupations that may be filled by a secondary school graduate, so that every 18-year-old is accredited in some occupation, whether he continues in school or not; and
> (3) Decision-making skills, or those skills that help one make decisions in complex situations where consequences follow (Coleman 1972, p. 431).

Interpersonal and organizational understanding are "survival skills" without which one simply cannot exist in

a modern-nation-state, suggests Marland (1971). The acquisition of the skills cited previously as necessary components in the employability preparation of secondary school students for work roles in health professions will impact directly on health manpower training requirements and priorities. As Chirikos (1972) contended, public school systems --as a consequence shifts away from the dependence on university-trained health workers and forms informal, on-the-job training. Public school systems now have an augmented role to play in training manpower for the health delivery system. Thus, formal secondary school systems must reassess their curriculum offerings, must examine the employment requirements for health manpower, and institute requisite changes in educational training policies--changes that are congruent with the manpower demands, providing, in essence, cadres of employable, trained allied health personnel (Chirikos 1972).

Noting that the main objectives of a secondary health occupations program are to prepare the student for employment upon completion of the program sequence and to assist the student in entering postsecondary education, the Illinois State Board of Education in its publication A Guide for Teachers and Administrators of Health Occupations at the Secondary Level outlines its programs criteria for employability preparation.

> It is expected that the student:
> is prepared to function satisfactorily in the health care facility;
> possesses all competencies needed at the entry-level for a particular job;
> is employed in the field or related field in which he/she was trained;
> continues on to postsecondary training or education based upon sound occupational information and experiences; and
> functions well on the job (Illinois State Board of Education 1980, p. 1).

The review of the literature related to secondary health occupations education employability preparation reveals that there are two major components. The identifiable components are: the preparation of students for entry-level employment as nurse assistants or other health aides or assistants and the preparation of students for entry into advanced postsecondary vocational health occupations education.

Occupational-Area Preparation

The literature indicates that students who participate in secondary health occupations education programs may often possess entry-level competencies and training skills which should qualify them for higher levels of responsibility and mobility. However, these employees seldom are allowed to use general transferable skills within health professions employment. At the secondary school level of "preparation," some alternative approaches to the problem have been suggested.

Several career education curriculum developers have employed the task or job analysis process in developing their training programs. Byars et al. (1973) described the process of developing task-related curricula which included several steps: completion of a pre-task analysis to develop a brief description of the job, completion and analysis of the task description, and determination of curriculum and instructional units.

Gullion and Gilpatrick (1973) developed a method of analyzing health occupations at the professional, technical, and aide levels, attempting to provide a data base for designing job ladders, curriculum guidelines, and performance evaluation instruments. Four years later, Gilpatrick (1977) used the Health Services Mobility Study task analysis method, identifying 86 new task descriptions at the aide, technician, and technologist levels by functions.

The scheme utilized in allied health makes it increasingly difficult to determine who best can perform particular tasks. Dolfman's (1974) findings suggested some degree of confusion with the allied health education classifications found; that is, each with its own perspective of what its responsibilities entailed. Due to the absence of professional identity or status, such situations could result in lack of motivation and dissatisfaction. Consequently, Dolfman suggested researching the need for allied

health workers to indicate flexibility in performing a variety of roles. An Alabama study (1976) attempted to determine whether one individual might be trained to perform duties usually performed by several specific workers in the allied health area. A Multiple-Competency Clinical Technician Program was developed to train one person in the entry-level functions of a medical assistant, a medical laboratory assistant and a nursing assistant. The program has been successful thus far, as measured by the responses of graduates and by their employability.

The trend toward unguided proliferation of allied health workers is, according to Pellegrino (1977), socially untenable and fiscally unsupportable. To bring about some convergence in function as well as number of workers, Pellegrino suggested use of task analysis to reduce functions to as few categories as possible according to basic professional functional groupings. This approach could result in clusters or core curricula. Use of a core curriculum serves two purposes: it makes the most efficient use of instructors, laboratories, and teaching materials, and it gives the student an opportunity to gain insight into several occupational areas with the option of changing from one specific area of study to another without losing credit for classroom work successfully completed.

Since the advent and subsequent development of the practical (vocational) nursing programs in the 1950s, many technical and vocational health careers have evolved. Holloway and Kerr (1969) concluded:

> As the practical nurse proved her worth as a supportive worker, the question arose whether other health fields might make use of non-professional assistants and technicians . . . Widespread acceptance of non-professional groups have moved in this direction and others are beginning to do so (p. 5).

Occupational--Specific Preparation

The literature shows that as needs for specific, more non-traditional occupations in the health care delivery profession have arisen, health occupations education programs at the secondary level, have endeavored to redirect their training and preparation foci. Thus the administrators and curriculum specialists are being challenged to explore such non-traditional facets as field experiences, role-playing and simulation, advisory committee involvement, and institutional licensure policies as intrinsic entities in their health occupations education programs for secondary students who want specific occupations preparation.

Owens (1973) contends that the field experiences component of the health occupations curriculum: (1) introduces the student to the program professional and the personal requirements of his specific health program choice;

(2) supports and augments what is done in the classroom; (3) centers around specific activities (relevant one-to-one contact with professionals in the health industry to give him a perspective on the whole health industry, application of work already done in the classroom, and activities with colleges and professional schools the student might likely attend); and (4) promotes student understanding and acceptance of his abilities, interests and aptitudes in light of his career choice. Articulation between the academic work and the actual practical experience at all times is an important ingredient in health occupations education (Owens 1973).

Ohio's programs of secondary instructions in health occupations education are designed to be compatible with high school graduation requirements and to offer experiences related to postsecondary education leading to a paraprofessional or professional goal. The main features of these programs are the "hands-on" experiences, career planning, and a broad educational foundation based on the students' career objectives. The activities are designed to provide the students with an understanding of careers related to the program offerings, to introduce them to the personal and educational requirements of their choices, and to provide understanding and acceptance of their abilities and aptitudes in light of future aspirations. Field

experiences comprise a large part of the curriculum (Ohio State Department of Education 1975).

The exploratory (secondary) level of Kansas' Health Occupation Education Program (1980) provides opportunities for individual students to prepare for a financially rewarding and personally satisfying health occupation consonant with their interests, capacities and abilities. In the latter phase of the secondary curriculum, students observe (up to three hours a day) health care professionals performing their duties (Kansas Health Occupations Guidelines 1980).

North Dakota's (1980) health occupations programs prepare students for entry level employment in related occupations ranging from the "aide" or assisting level to the skilled technician. The aide, for example, functions in assisting the skilled and professional personnel, who, in some programs, are required to meet certification and licensure accreditation standards (North Dakota State Board of Education 1980).

Another strategy used by schools training students for specific health occupations involved role-playing and simulation. Simulation, Evans (1973) contended is sometimes more efficient for instruction than real work because work simulation involves the creation of activities that are designed for teaching students about the production of

goods and services, but activities which produce goods and services as by-products of instruction. Moreover, in specific health occupations, simulation can be used to increase understanding of sensory deprivation and institutionalism experienced by the elderly (Wasmuth 1975) and to assist nursing students in facing feelings related to death (Mills 1977). Through role-playing and simulation, students' therapeutic communication skills are improved.

As expected, career mobility in the health professions is of genuine concern, even at the secondary level. Meek (1971) described the use of an advisory committee to coordinate efforts and suggest directions in aiding career mobility for allied health students. The task force suggested needs for: (1) an area-wide consortium to provide career mobility, (2) giving college credit to persons prepared in the military, and (3) core curriculum development. This approach was intended to provide students in the allied health sciences with both "inner pathway" mobility and upward mobility in their education and careers.

The problem of accreditation and licensure standards is of great concern for Health Occupations Education Programs. Such standards may impinge on such special health occupations as licensed practical nurses, dental aides, pharmacy aides, laboratory aides, and geriatrics aides. Therefore, health occupations education curricula at the

secondary level must include courses, information, and provisions for training and preparing students with such special occupations or choices as those cited above not only for entry-level employment, but also for career mobility.

In order to assist nurse aides to upgrade their job skills to the licensed practical nurse level, a work-study program was developed by the Medical and Health Research Association of New York City (1970). In this program, 422 aides completed a 14 month licensed practical nurse training program. Ninety-one percent of the graduates passed the state licensing examination and returned to duty as licensed practical nurses. Recommendations to improve the program included considering all aides as candidates, providing a center to improve counseling and other supportive services at the training site. Note was made of the importance of selection of participants in the work-study program. In order to raise the morale of such workers, it was deemed important to counsel those not selected and to suggest ways they might be included in future programs.

The issue of credentialing as a quality control was discussed by both Young (1977) and Frey (1973). In indicating that quality is now controlled by credentialing, licensure, and educational accreditation, Frey (1973) noted that there is increased questioning about the effectiveness of personnel credentialing as the best safeguard of good

patient care. He also opined that there is a general dissatisfaction with "a terrible disease of infectious credentialities," but that the cures include open universities and credit for prior learning. This trend may have a profound effect on the health fields at all levels.

Health Care Related Sciences--No Skills Emphasis

These Health Occupations Education programs emphasize course offerings which build the foundation for understanding the reasons for performing job tasks and making job-related decisions. Inasmuch as no skills emphasis (for immediate entry level employment) characterized this health program, a great deal of attention is focused on a core or cluster curriculum for the participants at the secondary level. A number of states have developed numerous curricula designs for health related sciences programs.

Lewis (1970) identified major findings, promising developments, and methodological strengths and weaknesses in curricula designed for training dental assistants, medical and dental technicians, and practical or professional nurses. The research indicated that although a number of curricula are available, a major shortcoming is the general lack of a core or cluster curriculum.

Barton (1974) shared an example of a core curriculum which specified program design for health occupations

education at the secondary school level. Utilizing the core approach in instruction in its cooperative program, the plan provided academic and clinical experience for the health care workers by requiring that all students have a core year of education before making their final career choice.

In Texas, at Houston's High School for Health Professions (1975), health occupations education participants take courses in health science, get practical experience in several health career fields, and follow a prescribed core or cluster curriculum--the parts of which, beginning in their sophomore year, address specific science related skills both in the classroom and in laboratory and clinical settings. In short, the career ladder approach is a basic part of the curriculum each student follows (EJ 108 719, 1975).

Summary

The author has focused on literature related to the emphasis areas identified for secondary health occupations education, as intervention strategies. These strategic emphasis areas begin no later than junior high school and continue through senior high school. Based on the literature review, they should provide positive assistance to students interested in Health Careers. Each emphasis area is an integral part of the total process of secondary health occupations education. The objective was to review

the literature related to these emphasis areas of secondary HOE: Pre-Vocational Guidance, Employability Preparation, Occupational-Area Preparation, Occupational-Specific Preparation, and Health Care Related Sciences. These emphasis areas can be related to the vocational maturation process that can be pictured as occurring in growth stages which, in sequential order, includes: (1) awareness of primary work roles played by persons in society, (2) exploration of work roles that an individual might consider as important, possible, and probable for himself or herself, (3) vocational decision making (which may go from highly tentative to a very specific form), (4) establishement (including preparing for and actually assuming a primary work role), and (5) maintenance (all of the ways in which one gains or fails to gain personal meaningfulness and satisfaction from the primary work role he or she may assume in a health occupation). The primary emphasis areas were derived from Rupert N. Evans' description of "Broad and Specific Types of Vocational Education." The primary emphasis areas of secondary health occupations education are implements of self-exploration, academic motivation, and skill training. The researcher has not intended to imply a preference to either of the emphasis areas. The objective has been to examine each of the emphasis areas and reported curricular designs with respect to state utilization in secondary

health occupations education. It was logical to expect to find the reported diversities among the states' program offerings even though the states' goals and philosophies are similar.

CHAPTER III

RESEARCH METHODOLOGY

Background

An inquiry was made to provide information basic to this research by a Texas Woman's University Professor (December 7, 1980). The inquiry had been sent to 54 secondary health occupations education directors in the United States and Territories. Information materials had been requested relating to secondary health occupations education goals and objectives. The information received was examined for state's goals and objectives.

Twenty-five state directors responded to the inquiry. Although the response represented only 50 percent, there was sufficient content to aid in constructing a format for compiling specific secondary health occupations education information relating to goals and objectives.

Introduction to Procedure Used in Conducting Research

The research methodology was divided into two stages. Stage I included the development of a data collection instrument. This instrument was designed to collect and compile the states' and territories' reported information

pertaining to goals and practices of secondary health occupations education (HOE).

Stage II of the procedure involved the development of a forced-choice instrument designed to determine demographic data and ascertain respondents' perceptions about secondary HOE. The demographic component of this instrument (perceptionnaire) was included to identify differences in perception among selected groups of respondents.

Stage I

The materials that were available were examined carefully to ferret out appropriate and useful data. It was necessary to develop an instrument based upon the states' and territories' diversified materials that would be comprehensive, as well as adaptable to the myriad of information.

Development of Data Collection Instrument

A format was designed to collect and compile information pertaining to the goals and practices of secondary HOE. The format reflected the states' and territories' diversified information. The instrument sought to identify pertinent information about secondary HOE:

1. Levels and Courses
2. Course Titles

3. Prerequisites
4. Grades
5. Quarters or Semesters
6. Hours Per Day and Minutes Per Week
7. Number of Weeks
8. Primary Emphasis Areas
9. Instructional Design
10. Instructional Setting

The instrument, accompanied by operational definitions (appendix A), was developed by the researcher. The primary emphasis areas were derived from Rupert N. Evans' (1981) description of "Broad and Specific Types of Vocational Education". The instrument was formatively evaluated by persons knowledgeable in secondary health occupations education, instrument assessment devices, and computer technology.

Selection of Five Experts to Assess the Preliminary Instrument

This procedure of the study required the selection of five experts to assess the preliminary instrument for clarification of statements and definitions, additions and deletions, suggestions concerning directions, recording procedures, and specific items. The five experts were chosen on the basis of their expertise, availability, and

knowledge of secondary HOE, computer programming, and survey instrument assessment.

Once the five experts were selected, interviews were arranged either by letter or telephone. In all cases, a copy of the preliminary instrument was either mailed with the letter or was hand delivered. Instrument revisions were based on responses from the formative evaluators and computer programmer. After the revisions were made, the assumption was made that the instrument was ready for use. (The letter of transmittal, operational definitions, and the revised data collection instrument used in Stage I are presented in appendix A.)

Instrument Validity

The data collection was considered valid for several reasons. First, the process by which the instrument was developed, which included additions, deletions, and clarification of items by experts insured readability and clarity. Second, the instrument was assessed by experts working in secondary and postsecondary HOE, and persons in computer science who were familiar with the content in the instrument. The primary emphasis areas and definitions, considered to be a major part of the instrument, were assumed valid for two other reasons. First, they possess logical validity (Good and Hatt 1952) because all items

were taken either from the literature of vocational education, secondary HOE, or they were suggested by experts working in the field. Second, the instrument content was assessed by experts in the field. "Content and scales possess validity when it actually measured what it claims to measure" (Goode and Hatt 1951, p. 256). Therefore, this instrument and content was considered valid.

Data Collection Procedure

After examining the states' and territories' information, it was determined that eight states had submitted insufficient material, 16 states had submitted irrelevant material, one state did not have an operative secondary HOE program, and 32 states did not respond to the inquiry. The information from each state and territory was examined to identify the data required to complete the survey instrument(s). Based on the results from the original inquiry, transmittal letters were composed for follow-up and to request additional information (appendix B).

The maximum amount of information requested on the instrument was obtained from materials supplied by each state and territory. Following this step, the partially completed or completed instrument(s), operational definitions, and letter of transmittal were mailed to each director for completion, validation, or solicitation of

information on February 25, 1981. The accompanying cover letter explained the purpose and what was being requested of the respondent.

Population

Members of the National Association for State Administrators of Health Occupations Education (NASAHOE) constituted the population for stage I of the research. The Bureau of Occupational and Adult Education had compiled a directory of state and territory officials responsible for secondary HOE (February 1980). This directory was used to identify secondary HOE administrators. A total of fifty-four state and territorial administrators were involved in this research.

Follow-Up

In order to facilitate sufficient response, follow-up letters were composed and mailed. The first follow-up letter, dated March 24, 1981 is in appendix C. A second follow-up letter was mailed April 1, 1981, because of insufficient response (appendix C). The second follow-up letter was accompanied by sample instruments and further directions. A third follow-up was made by telephone to insure a 75 percent response. A total of 11 directors were contacted by telephone during the week of April 20, 1981.

A total of 39 instruments were completed and returned by May 29, 1981, consisting of a 75 percent return rate.

Analysis of Data

During the middle of April 1981, the researcher began compiling the information from instruments received from the secondary HOE directors. These data were analyzed by computer using the Statistical Package for the Social Sciences (SPSS). After the data were compiled, descriptive statistics (frequencies and cross-tabulations) were computed in order to profile the data received from the state directors.

Summary

Stage I

During January 1981, the researcher developed a format (instrument) for the collection and compilation of information pertaining to goals and practices of secondary HOE. The format was validated by a panel of experts in secondary and postsecondary HOE. The population used for this stage of the study was 57 state and territory directors of secondary HOE. The information requested, received, and compiled, related to: (1) secondary HOE courses, (2) course sequence, (3) emphasis areas, (4) instructional design, and

(5) instructional setting. This information was identified and analyzed in order to profile the nation's diversified goals and practices of secondary health occupations education.

Stage II

Development of the Instrument

The research design for this study included a plan for obtaining a sample population's perceptions of goals and practices of secondary health occupations education. A perceptionnaire is defined as an instrument developed to ascertain respondents' perceptions (awareness and understanding) of secondary health occupations education. This term was operationally defined for this research project.

This perceptionnaire was developed and validated by the researcher based on the information deduced from the instrument used in stage I. As part of the research design, stage I instrument was divided into ten sections:

1. Course Title or HOE Designation
2. Prerequisite(s)
3. Course or Level
4. Usual Grade
5. Number of Quarter(s) or Number of Semester(s)
6. Hours Per Day and Minutes Per Week

7. Number of Weeks
8. Primary Emphasis Areas
9. Instructional Design and
10. Instructional Setting

A predetermined number of perceptionnaire items were developed and related to these identifiable sections of the data collection instrument (Instrument I--Stage I).

Ten of the perceptionnaire items were related to course title or HOE designation and prerequisites. Five items were based on course or level, quarter(s) or semester(s), hours per day, minutes per week, and number of weeks. The emphasis areas were to reflect program levels or courses. Fifteen perceptionnaire items were developed to relate these emphasis areas:

1. Pre-vocational Guidance
2. Employability Preparation
3. Occupational-Area Preparation (general HOE skills)
4. Occupational-Specific Preparation (specific HOE skills)
5. Health Care Related Sciences
6. Other (no additions were identified)

Fifteen perceptionnaire items were designed to relate to the section designated as instructional design or the mode of instruction most frequently used as:

1. Standard Classroom
2. Pre-employment Laboratory (skill development)
3. Combination of skill development and occupational experience
4. Apprenticeship
5. Observation of professionals in Health Care Facilities
6. Other (rotation through specialty areas was reported)

There were five perceptionnaire items developed relating to instructional setting. Instructional setting referred to:

1. Educational Institution only
2. Health Care Facility only
3. Combination--Educational Institution and Health Care Facility
4. Other (field trips and guest speakers were reported)

Some of these perceptionnaire items naturally would overlap and therefore, some were subsumed. A total of 37 perceptionnaire items were developed. The items included in the perceptionnaire intentionally and inherently reflected the characteristics of the first instrument. Specifically, the perceptionnaire was designed to elicit perceptions relating to scope, emphasis, and instructional design and setting in secondary health occupations education.

Items relating to demographic information were included in the perceptionnaire. The first 30 items referred to demographic and occupational experience to provide a profile of the respondents. A check-list was utilized as the response mode for this section of the perceptionnaire. The statements that followed were designed to accommodate a Likert-type scale.

The respondents were directed to express endorsement or rejection of a perception statement by selecting one of five options. These five options were gradated for possibilities of agreement or disagreement. In 1972, Tuckman stated that the Likert-type scale could be used "to register the extent of agreement or disagreement with a particular statement of an attitude, belief, or judgment" (p. 157). The perception-naire statements were written with some in a positive direc-tion and others in a negative direction. Furthermore, item selection for the perceptionnaire included both negative and positive items covering all sections of Instrument I.

Instrument Validity

Stage II included a process for instrument evaluation. This process required the critiquing of the instrument by five educational experts. These experts were asked to critique the instrument for: ease in answering; adequate directions; logical sequence; appropriateness of inquiry

(based on instrument I); relevancy of questions (answers) as a means of identifying perceptions related to scope, emphasis, instructional design and setting, and items that would defy or oppose plans for anonymity. Instrument revisions were based on responses from the formative and computer evaluations (The revised instrument is presented in appendix D). After the quality of the instrument was established, the assumption was made that the perceptionnaire was ready for use. The perceptionnaire and accompanying cover letter (appendix D) were submitted to the Human Research Review Committee for approval on April 7, 1981.

Description of the Subjects

The sample for this stage of the study consisted of 250 of the 2500 members. This was 10 percent of the American Vocational Association-Health Occupations Education Divisional Members (AVA-HOE). The members of the American Vocational Association (AVA) were located within five designated regions of the United States. The same five regions were designated for the sampling population used in this study. The research design prescribed that each of these five regions be represented by 50 AVA-HOE divisional members. The selection of 250 AVA-HOE divisional members was generated by computer in order to insure a random and proportionate sample representative of states, regions, and

members of AVA-HOE division.

Data Collection Procedure

During the first week of May 1981, perceptionnaires were mailed to 250 AVA-HOE divisional members. The perceptionnaires were accompanied by a cover letter (See appendix D) and a self-addressed, postage paid envelope. Prior to addressing the envelope a plan for coding was developed to facilitate follow up and to assure anonymity. This coding system included the five AVA-HOE regions and the 250 names and addresses that were generated by computer. In order to assure anonymity and to help insure maximum returns, no names were requested on the perceptionnaire.

Summary

Stage II

A perceptionnaire (instrument) was developed by the researcher to ascertain respondents' awareness and understanding of secondary HOE. The perceptionnaire was based on the information compiled in Stage I. Therefore, it inherently reflected the characteristics of the first (Stage I) collection of data.

The American Vocational Association has designated five regions of the United States. The research design solicited

50 responses from each region. Ten percent (25) of the 2500 AVA-HOE members were identified by computer to generate a proportionate and random sampling of the five AVA-HOE regions. The coded instruments were processed to facilitate follow-up. On July 1, 1981, a total of 131 perceptionnaires (instruments) had been returned.

The number of respondents from each of the five regions are presented in Table 1.

TABLE 1

NUMBER OF RESPONDENTS BY REGIONS

Regions	Respondents
Region I	24
Region II	23
Region II	30
Region IV	24
Region V	30

Of the 131 perceptionnaires returned, 5 were eliminated. The elimination was the result of 3 members having unidentifiable addresses and 2 respondents feeling disqualified to respond to secondary HOE. Therefore, a total of 126 perceptionnaires were utilized in the data analysis unless indicated otherwise. Visual inspection revealed that the 126 responses represented a proportionate sample from each of

the 5 AVA-Hoe regions.

The information was analyzed by computer using the Statistical Package for Social Sciences (SPSS). Primary descriptive statistics (frequencies, percentages) and cross-tabulations were used for the perceptionnaire analysis. Cross-tabulations were used to analyze demographics relating to AVA-HOE members' responses. This procedure was carried out mainly to describe the variations between members' employment, job setting, years of experience, educational status and members' credentials.

This dissertation study was part of a larger study which included ranking existing secondary HOE programs. Data for that portion of the study were not analyzed but are reported in appendix E.

CHAPTER IV

RESULTS

This chapter includes data analysis and presentation of results of the study. The data were analyzed using the frequency count of variables and crosstabulations with a statistical package for the social sciences (SPSS).

Stage I

Seventy-five percent of the collection instruments were completed and returned. The subjects of stage one of the study were state and territory directors of secondary health occupations education (HOE). The purpose of stage I of the study was to analyze and profile the nation's diversified information related to (1) secondary HOE courses, (2) course sequence, (3) emphasis areas, (4) instructional design, and (5) instructional setting. Forty states and 227 courses were included in this stage. Hawaii's director of vocational education reported not having a workable program. Therefore, the analysis is based on data from 39 states and their respective 227 HOE courses (appendix F).

Course Categories--Hoe Designations

The data indicated a multiplicity of courses. These courses were grouped into five major secondary HOE categories. Table 2 shows HOE categories and respective course titles.

Eighty-five courses (37.4%) were grouped into Category IV and 50 courses (22%) were in Category V. The remainder were grouped into Categories I, II, and III. Table 3 gives the complete distribution of courses within categories.

Prerequisites. More than half of the respondents (65%) did not report prerequisites for their courses. Eight course prerequisites were identified. These included:

Course or Level I	Health Care Related Sciences
Age 16	Typing
Eighth grade	State Board Prerequisites
Twelfth grade	Pre-entrance Examination

Courses designated a Category I (e.g., Basic HOE) did not require prerequisites, all other courses required one or more prerequisites. The most frequently reported prerequisites were course or Level I, age 16, and health care related sciences. In addition, 10 courses reported eighth grade and 3 courses reported twelfth grade as a prerequisite. States (e.g., Florida, Louisiana, Michigan, Oklahoma, Virginia, and New Jersey) having a large percentage of

TABLE 2

COURSE CATEGORIES--HOE DESIGNATIONS

Category	Course Title
I	Basic HOE
	Introduction to HOE
	Level I HOE
	Orientation to HOE
	Fundamentals in HOE
II	Level II HOE
	HOE II
III	General Skills HOE
	Health Service Occupations
	Health Related Occupations
IV	Specific Skills HOE
	Specialty Areas:
	Nurse Assistant Community Health Aide Medical Office Assistant Rehabilitation Aide Medical Laboratory Aide Practical Nurse Dental Assistant or Technicians Health Aide Geriatric Aide Pharmacy Aide Emergency Medical Assistant Home Health Aide Ward Clerk Assistant
V	HOE Cooperative

TABLE 3

FREQUENCY AND PERCENTAGE OF HOE COURSE CATEGORIES

HOE Course Category	Absolute Frequency	Relative %
I	43	18.9
II	14	6.2
III	35	15.4
IV	85	37.4
V	50	22.0
Total	227	100.0

specialty areas required the most prerequisites. Sixty-five courses (28.6%) reported a course from Category I (e.g., Basic HOE) as a prerequisite. Table 4 contains additional details concerning the course prerequisites.

Grade Level and Course Duration. States responding to Stage I reported a multiplicity of grade levels and types of academic calendar. Courses offered ranged from the seventh through twelfth grade levels; the majority were offered at the twelfth (126) and eleventh (72) grade levels. Only one state reported offering a HOE course at the seventh grade level (table 5).

Academic calendars reported included both quarter and semester systems. The range of course length among states using the quarter system was 1-4 quarters. Most courses (48)

TABLE 4

FREQUENCY AND PERCENTAGE OF PREREQUISITES

Prerequisite	Absolute Frequency	Relative %
No Prerequisites	150	66.1
Course or Level I	2	.9
Age 16	6	2.6
Grade 8	43	18.9
Grade 12	2	.9
Health Related Sciences	7	3.1
State Board Requirements	3	1.3
Preentrance Examinations	14	6.2
Total	227	100.0

TABLE 5

FREQUENCY AND PERCENTAGE OF COURSES BY GRADE LEVEL

Course Category	Course Frequency by Grade Level						Row Total	Row %
	7	8	9	10	11	12		
I	0	0	3	13	16	11	43	18.9
II	0	0	0	0	5	9	14	6.2
III	1	2	2	5	12	13	35	15.4
IV	0	0	0	3	36	46	85	37.4
V	0	0	0	0	3	47	50	22.0
Column Total	1	2	5	21	72	126	227	100.0
Column %	.4	.9	2.2	9.3	31.7	55.5	100	

entailed two quarters of study; 20 courses entailed four quarters. States utilizing a semester system reported courses ranging from 1-8 semesters in length; the majority

(125) of courses entailed two semesters. Table 6 shows course duration for both quarter and semester systems.

TABLE 6

COURSE DURATION

System	Course Frequency	Percentage
Quarter		
0	154	67.8
1	2	0.9
2	48	21.1
3	3	1.3
4	20	8.8
Total	227	
Semester		
0	63	27.8
1	20	8.8
2	125	55.1
3	4	1.8
4	11	4.8
8	4	1.8
Total	227	

States reported courses lasting from 1-6½ hours per day. The majority of courses (106) required 2 hours per day. Table 7 shows the total hours per day.

TABLE 7

COURSE LENGTH IN HOURS PER DAY

Hours/Day	Frequency	Percentage
0.00	15	6.6
1.00	32	14.1
2.00	106	46.7
2.30	4	1.8
2.45	1	0.4
3.00	47	20.7
3.45	5	2.2
3.50	2	0.9
4.00	5	2.2
4.30	2	0.9
5.00	2	0.9
6.00	2	0.9
6.30	4	1.8
Total	227	100.0
Mean	2.188	
Mode	2.000	

Secondary HOE courses were reported as extending from 160-1800 minutes per week. The largest number of minutes reported were 625 for 39 courses. The second largest number

of minutes (500) were reported for 30 courses. Only one course reported 1800 minutes per week. Table 8 shows the total minutes per week for secondary HOE courses.

TABLE 8

TOTAL TIME PER WEEK FOR SECONDARY HOE COURSES

Minutes/ Week	Frequency	Percent-age	Minutes/ Week	Frequency	Percent-age
0	28	12.3	continued		
160	1	0.4	625	39	17.2
205	3	1.3	700	1	0.4
225	5	2.2	750	17	7.5
250	20	8.8	825	3	1.3
260	1	0.4	900	17	7.5
275	3	1.3	1100	2	0.9
280	1	0.4	1125	5	2.2
300	8	3.5	1200	1	0.4
360	2	0.9	1350	2	0.9
400	1	0.4	1500	2	0.9
410	2	0.9	1800	1	0.4
450	3	1.3	Total	227	100.0
500	30	13.2	Mean	519.295	
600	17	7.5	Mode	625.0	

Nine to 72 weeks were reported for secondary HOE courses. One hundred and eighty-one courses (80%) indicated 36 weeks for secondary HOE courses. Table 9 gives the report of the range of weeks currently required in secondary HOE courses.

TABLE 9

TOTAL TIME REQUIRED FOR HOE COURSES

Weeks	Frequency	Percentage
9	1	0.4
14	6	2.6
18	18	7.9
25	2	0.9
36	181	79.7
37	3	1.3
38	2	0.9
44	5	2.2
45	1	0.4
72	8	3.5
Total	227	100.0
Mean	35.291	
Mode	36.000	

Emphasis Areas. Emphasis areas were identified to reflect the primary course content and were based on accompanying operational definitions (appendix A). The emphasis areas were:

Pre-vocational Guidance

Employability Preparation

Occupational-Area Preparation (General HOE Skills)

Occupational-Specific Preparation (Specific HOE Skills)

Health Care Related Sciences

Table 10 shows the number of courses by category that were designated as "primary" among the six emphasis areas. These six courses are reported in category IV and were rotation courses.

One hundred fifty-eight courses were reported in the Occupational-General Preparation (86) and Occupational-Specific Preparation (72) emphasis areas. The 6 (others) were given a low priority by the state reporting rotation as an emphasis area.

Instructional Design. Instructional design referred to the mode or modes of instruction most frequently used. These were:

Standard Classroom

Pre-employment Laboratory (Skill Development)

Combination (Skill Development and Occupational Experience)

TABLE 10

CROSS-TABULATIONS ANALYSIS OF EMPHASIS AREAS AND SECONDARY HOE COURSE CATEGORIES

	Number of Courses by Category					
Primary Emphasis Area	I	II	III	IV	V	Total
Pre-vocational Guidance	15	4	6	0	0	25
Employability Preparation	7	0	5	10	4	26
Occupational-Area Preparation	9	3	19	14	41	86
Occupational-Specific Preparation	10	2	1	55	4	72
Health Care Related Sciences	1	4	3	4	0	12
Other (Rotation)	0	0	0	6	0	6
Total	42	13	34	89	49	227

Apprenticeship

Observation

The "Standard Classroom" design was used in 134 secondary HOE courses. More than 69% (158) of the courses used the "Pre-employment Laboratory" design. Eleven (4.8%) courses added "Rotation" (Rotation through specialty areas) as another design. Table 11 offers the frequencies and percentages for each of the instructional designs.

TABLE 11

INSTRUCTIONAL DESIGNS USED

Count Row % Col % Total %	Standard Classroom		Preemployment Laboratory		Combination		
Course Category	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Row Total
I	8 18.6 8.6 3.5	35 81.4 26.1 15.4	19 44.2 27.5 8.4	24 55.8 15.2 10.6	27 62.8 25.2 11.9	16 37.2 13.3 7.0	43 18.9
II	1 7.1 1.1 0.4	13 92.9 9.7 5.7	6 42.9 8.7 2.6	8 57.1 5.1 3.5	5 35.7 4.7 2.2	9 64.3 7.5 4.0	14 6.2
III	16 45.7 17.2 7.0	19 54.3 14.2 8.4	21 60.0 30.4 9.3	14 40.0 8.9 6.2	10 28.6 9.3 4.4	25 71.4 20.8 11.0	35 14.4
IV	22 25.9 23.7 9.7	63 74.1 47.0 27.8	14 16.5 20.3 6.2	71 83.5 44.9 31.3	25 29.4 23.4 11.0	60 70.6 50.0 26.4	85 37.4
V	46 92.0 49.5 20.3	4 8.0 3.0 1.8	9 18.0 13.0 4.0	41 82.0 25.9 18.1	40 80.0 37.4 17.6	10 20.0 8.3 4.4	50 22.0
Column Total	93 41.0	134 59.0	69 30.4	158 69.6	107 47.1	120 52.9	227 100.0

TABLE 11 (continued)

Count Row % Col % Total %	Apprenticeship		Observation		Rotation		
Course Category	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Design Not Used	Row Total
I	42 97.7 20.1 18.5	1 2.3 5.6 0.4	22 51.2 19.1 9.7	21 48.8 18.8 9.3	41 95.3 19.0 18.1	2 4.7 18.2 0.9	43 18.9
II	12 8.7 5.7 5.3	2 14.3 11.1 0.9	10 71.4 8.7 4.4	4 28.6 3.6 1.8	14 100.0 6.5 6.2	0 0.0 0.0 0.0	14 6.2
III	30 85.7 14.4 13.2	5 14.3 27.8 2.2	15 42.9 13.0 6.6	20 57.1 17.9 8.8	35 100.0 16.2 15.4	0 0.0 0.0 0.0	35 15.4
IV	76 89.4 36.4 33.5	9 10.6 50.0 4.0	59 69.4 51.3 26.0	26 30.6 23.2 11.5	76 89.4 35.2 33.5	9 10.6 81.8 4.0	85 37.4
V	49 98.8 23.4 21.6	1 2.0 5.6 0.4	9 18.0 7.8 4.0	41 82.0 36.6 18.1	50 100.0 23.1 22.0	0 0.0 0.0 0.0	50 22.0
Column Total	209 92.1	18 7.9	115 50.7	112 49.3	216 95.2	11 4.8	227 100.0

Instructional Settings. The Instructional (i.e., institutional) settings identified were:

Educational Institution only

Health Care Facility only

Combination (Educational Institution and Health Care Facility)

There were 47 courses reporting "Educational Institution" as the only instructional setting. The "Health Care Facility" only was used by 8 courses. "Combination (Educational Institution and Health Care Facility)" was the setting used by 199 (over 87%) courses. Five courses reported "Field Trips and Guest Speakers" as another instructional (institutional) setting (see table 12).

Stage II

Stage II of this research utilized a closed-form instrument which included two identifiable components: demographic information and the preconceptionnaire. A computerized sample of 250 American Vocational Association-Health Occupations Education members constituted the population for Stage II. A total of 126 (50.4%) were completed, returned, and utilized in the data analysis.

TABLE 12

INSTRUCTIONAL SETTINGS USED

Count Row % Col % Total %	Educational Institution (only)		Health Care Facility		Combination		Field Trips Guest Speakers		
Course Category	Setting Not Used	Setting Used	Setting Not Used	Setting Used	Setting Not Used	Setting Used	Setting Not Used	Setting Used	Row Total
I	23 53.5 12.8 10.1	20 46.5 42.6 8.8	40 93.0 18.3 17.6	3 7.0 37.5 1.3	14 32.6 50.0 6.2	29 67.4 14.6 12.8	43 100.0 19.4 18.9	0 0.0 0.0 0.0	43 18.9
II	12 85.7 6.7 5.3	2 14.3 4.3 0.9	14 100.0 6.4 6.2	0 0.0 0.0 0.0	2 14.3 7.1 0.9	12 85.7 6.0 5.3	14 100.0 6.3 6.2	0 0.0 0.0 0.0	14 6.2
III	26 74.3 14.4 11.5	9 25.7 19.1 4.0	33 94.3 15.1 15.5	2 5.7 25.0 0.9	4 11.4 14.3 1.8	31 88.6 15.6 13.7	34 97.1 15.3 15.0	1 2.9 20.0 0.4	35 15.4
IV	70 82.4 38.9 30.8	15 17.6 31.9 6.6	82 96.5 37.4 36.1	3 3.5 37.5 1.3	6 7.1 21.4 2.6	79 92.9 39.7 34.8	81 95.3 36.5 35.7	4 4.7 80.0 1.8	85 37.4
V	49 98.0 27.2 21.6	1 2.0 2.1 0.4	50 100.0 22.8 22.0	0 0.0 0.0 0.0	2 4.0 7.1 0.9	48 96.0 24.1 21.1	50 100.0 22.5 22.0	0 0.0 0.0 0.0	50 22.0
Column Total	180 79.3	47 20.7	219 96.5	8 3.5	28 12.3	199 87.7	222 97.8	5 2.2	227 100.0

Demographics

Analysis of the demographic data was performed to describe the variations between members' employment, job setting, years of experience, educational level, and credentials. Descriptive statistics and cross-tabulations were used to compare selected demographic information of the respondents.

Employment Titles. The most frequently reported employment title was secondary HOE instructors (45) followed by 27 post-secondary instructors and 22 administrators and directors. Table 13 shows the distribution for Employment Titles.

TABLE 13

EMPLOYMENT TITLES

Employment Title	Frequency	Percentage
Administrator/Director	22	17.5
Supervisor	8	6.3
Curriculum Specialist	2	1.6
Teacher Educator	13	10.3
Secondary HOE Instructor	45	35.7
Postsecondary HOE Instructor	27	21.4
Adult HOE Instructor	9	7.2
Total	126	100.0

Job Setting. Table 14 shows a diversity of job settings. Of those reporting, 47 were Area Vocational School respondents compared to 32 respondents in Local Public Schools. Five respondents reported job settings in categories other than those listed but did not identify their job settings.

TABLE 14

JOB SETTING

Job Setting	Frequency	Percentage
Government	2	1.6
State Education Agency	11	8.7
Area Vocational School	47	37.3
Local Public School	32	25.4
Community Junior College	19	15.1
College-University	8	6.3
Hospital-Clinic	2	1.6
Other	5	4.0
Total	126	100.0

Years of Experience. Forty-four of the 125 respondents reported 5-10 years of experience. There were eight respondents reporting less than 1 Year of Experience. Table 15 shows the frequency and percentage for years of experience.

TABLE 15

YEARS OF EXPERIENCE

Years of Experience	Frequency	Percentage
Less than 1 year	8	6.3
1-2 years	12	9.5
2-5 years	24	19.0
5-10 years	44	34.9
Over 10 years	37	29.4
Missing Reports	1	.8
Total	126	100.0

Educational Status. Over 42% of the respondents reported having received a Bachelor's degree while 32.5% reported having a Master's degree. However, there were 7 (5.6%) respondents reporting less than 2 years of college credit. Table 16 has the report on the Educational Status of the participants.

The majority of respondents had acquired at least a Bachelor's degree. The respondents reporting in the "Other" category did not identify their Educational Status (table 16).

TABLE 16

EDUCATIONAL STATUS

Education	Frequency	Percentage
Less than 2 years of College	7	5.6
Associate Degree	11	8.7
Bachelor's Degree	53	42.1
Master's Degree	41	32.5
Educational Specialist	3	2.4
Doctor's Degree	6	4.8
Registered Nurse	2	1.6
Licensed Vocational Nurse	1	.8
Other	2	1.6
Total	126	100.0

Credentials. Credentials for the respondents were listed as:

Registered Nurse

Licensed Vocational Nurse

Others (Certified Respiratory Therapy Technician, Registered Medical Technologist, Registered Dietician, Certified Medical Technologist, Physical Therapist, Radiological Technician, Certified Dental Assistant, Occupational Therapist)

The largest number of respondents (97) reported to be Registered Nurses, and 9 reported to be Licensed Vocational Nurses. The remaining 20 respondents reported to be in the other than nurse category (i.e., Registered Dietician, Physical Therapist, etc.).

The Perceptionnaire

The perceptionnaire consisted of 37 items (appendix D). The items were developed to reflect the information obtained from Stage I of the study. The means, medians, and modes of 126 participants' response to each of the 37 perceptionnaire items were determined. (The complete report of the means, medians, and modes of the participants' responses to the 37 perceptions relating to secondary HOE is included in appendix F).

Generally, the perceptionnaire data were analyzed based on 126 respondents. Respondents were directed to express endorsement or rejection of a perception statement (item) by selecting one of five options.

Responses to Perceptionnaire Items. A mean was computed for each perceptionnaire item. Levels of agreement and disagreement were based on the criteria in table 17.

Further analysis of perceptionnaire data indicated two distinct expressions of agreement or disagreement. To more accurately describe these expressions the following

TABLE 17

CRITERIA TO DETERMINE GENERAL TENDENCIES

REGARDING RESPONDENTS PERCEPTIONS

$1 \geq \bar{x} \leq 1.5$	=	Maximum Agreement (MA)
$1.5 \geq \bar{x} \leq 2.5$	=	Minimum Agreement (mA)
$2.5 \geq \bar{x} \leq 3.5$	=	Neutral (N)
$3.5 \geq \bar{x} \leq 4.5$	=	Minimum Disagreement (mD)
$4.5 \geq \bar{x} \leq 5$	=	Maximum Disagreement (MD)

additional criteria were developed. Strongly Agree was selected to denote an expression where the perceptionnaire mode equaled "1" and $1 \geq x \leq 2.5$; Strongly Disagree when the mode equaled "5" and $3.5 \geq x \leq 5.0$ (See Tables 18 and 19).

Differences Between Selected Groups of Respondents. A review of the responses indicated a relatively large number of significant groups (i.e., administrators or directors, supervisory, and secondary HOE instructors). Cross-tabulations allowed the researcher to observe the possible agreement, disagreement, or general concensus among respondents as well as the variations between select groups. The t-test was used to determine whether there were significant differences between the means of selected groups' responses. However, when item means between groups were tested at a .05 level, no statistically significant differences were found.

TABLE 18

STRONGLY AGREE PERCEPTIONNAIRE ITEMS

Item	Mean	Mode
Q1	2.128	1
Q6	2.214	1
Q8	2.096	1
Q20	2.214	1
Q22	2.087	1
Q23	1.929	1
Q24	1.976	1
Q25	2.040	1
Q26	1.921	1
Q27	2.270	1
Q31	2.352	1
Q33	2.008	1
Q37	2.437	1

Four perceptionnaire item means revealed meaningful differences when administrators', directors', and supervisors' responses (as a group) were compared to other respondents. These perceptionnaire items included Q13, Q19, Q20, and Q28 (appendix I).

The administrators, directors, and supervisors as a group disagreed more than the other respondents with the

TABLE 19

STRONGLY DISAGREE PERCEPTIONNAIRE ITEMS

Item	Mean	Mode
Q3	3.512	5
Q7	3.778	5
Q14	3.935	5
Q16	3.706	5
Q18	4.214	5
Q19	3.635	5
Q28	3.817	5
Q32	4.065	5

perceptionnaire item Q13: "A generalist rather than a specialist role should be the primary emphasis in secondary HOE curriculum."

The administrators, directors, and supervisors agreed more with item Q19: "A primary constraint to secondary HOE is the opinion that it leads to 'dead-end' jobs for students who are too young to choose wisely." Administrators, directors and supervisors indicated more agreement with item Q20: "Unless the secondary HOE experience included a supervised work experience, it should not be considered occupational education." This select group also indicated less disagreement with item Q28: "Topics related to health occupations

such as medical terminology and medical ethics should not be included before the second course in the secondary HOE sequence."

When secondary HOE instructors' responses were compared to the remaining population responses, means of five perceptionnaire items for the respective group revealed meaningful differences also. These items included Q10, Q19, Q27, and Q35 (appendix J).

Secondary HOE instructors indicated less disagreement with item Q10: "Cooperative education is preferred to traditional supervised clinical experience to teach HOE employment skills." The secondary HOE instructors reported less agreement than the population with item Q12: "All secondary HOE programs should prepare for specific entry level occupations such as nurse aide, health aide, medical lab aide, or orderly." The secondary HOE instructors disagreed more than the population with perceptionnaire item Q19: "A primary constraint to secondary HOE is the opinion that it leads to 'dead-end' jobs for students who are too young to choose wisely." The secondary HOE instructors agreed more strongly with item Q27: "All secondary HOE instruction should be organized to prepare students for occupational objectives concerned with assisting qualified personnel." The HOE instructors agreed more than the remaining population with item Q35: "Secondary HOE students,

compared to other vocational education students, receive adequate career exploration and preparation experiences."

When administrators' responses were compared to instructors' responses, means of five perceptionnaire items for the respective group revealed meaningful differences. These items included Q12, Q19, Q20, Q28, and Q35 (appendix I). Administrators responded with less agreement than the secondary HOE instructors to item Q12: "All secondary HOE programs should prepare for specific entry level occupations such as nurse aide, health aide, medical aide, or orderly."

The secondary HOE instructors disagreed more often than the administrators with the perception (Q19): "A primary constraint to secondary HOE is the opinion that it leads to 'dead-end' jobs for students who are too young to choose wisely." The administrators agreed more with item Q20: "Unless the secondary HOE experience includes a supervised work experience, it should not be considered occupational education." Secondary HOE instructors (compared to administrators) reported minimal agreement with item Q28: "Topics related to health occupations such as medical terminology and medical ethics should not be included before the second course in the secondary HOE sequence." Secondary HOE instructors agreed more often than the administrators with item Q35: "Secondary HOE students, compared with other vocational education students, receive adequate career

exploration and preparation experiences. (A complete report of the *t*-test values are in appendix I.)

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary

The purpose of this study was to identify the practices in and perceptions of secondary health occupations education in the United States and territories in order to develop a national profile or composite. Information was solicited from state and territory directors of secondary health occupations education (HOE). This information related to scope, emphasis areas, prerequisites, time allocation, instructional design, and setting. The concern about the diversity in secondary HOE and the lack of data relating to secondary HOE in the United States, as well as a national profile or composite motivated this study. The research was conducted in two stages.

Stage I was carried out by identifying and analyzing states' and territories' diversified materials that would be comprehensive, as well as adaptable to the myriad of information. An open-ended survey instrument was developed, validated, and accompanied by operational definitions (appendix A). The instrument was developed to identify HOE levels, course titles, prerequisites, grades, quarters or

semester, hours per day, minutes per week, number of weeks, primary emphasis areas, instructional design, and instructional setting (appendix A).

The National Association for State Administrators of Health Occupations Education (NASAHOE) members constituted the population for Stage I of the study. A total of 54 state and territory administrators were involved in this research.

Analysis of the data revealed that 75% of the instruments were completed and returned. Forty states and 227 courses were included in the research. Hawaii's director of vocational education reported not having a workable program. Therefore, 39 states and 227 secondary HOE courses having different dimensions were analyzed in the study.

The attempt to compile the states' and territories' diversified goals and perceptions of secondary HOE into a brief and compact format was a necessary alteration or addendum to the proposed research. The composite derived from the information provided and validated by each state and territory resulted in a description of a diversity of programs and offerings.

Indiana, Michigan, Florida, Louisiana, Nebraska, and New Jersey reported to have more secondary HOE course offerings than other responding states. Mississippi, Wyoming, Oregon, and Missouri reported to have two or less

courses. Hawaii reported to be in the process of organizing secondary HOE courses.

Analysis of data indicated that secondary HOE courses were taught in grades seven through twelve. Although the majority of secondary HOE courses were reported as offered in the eleventh and twelfth grades, and infrequently required prerequisites, those prerequisites reported were: (1) course or Level I, (2) eighth grade, and (3) health care related sciences.

Five course "Categories" were identified. Category I courses were taught in grades nine through twelve; Category II courses taught in grades eleven and twelve only; Category III courses taught in grades seven through twelve; and Categories IV and V courses in grades eleven and twelve only.

These courses were reported as taught most frequently over two quarters or two semesters during the academic year. Also, they were typically taught in three hour sessions during a single day and typically included 625 instructional minutes over the school week. These courses were also reported to be taught within 36 weeks of the calendar year.

Cross-tabulations analysis revealed pre-vocational guidance as a primary emphasis area for courses in Categories I, II, and III. Employability preparation was described as an emphasis area for courses in categories III, IV, and V. The greatest emphasis area for employability preparation

was in the specialty areas or Category IV courses. General HOE skills was reported as an emphasis area for Category V courses by 41 courses and by 19 courses in Category III.

Even though pre-vocational guidance and employability preparation ranked almost equally in importance, general HOE skills (Category III) was reported 86-to-25 as being a more important emphasis area in secondary HOE courses. Pre-vocational Guidance or Basic HOE was reported as a significant emphasis area for most Categories (I-IV) since a majority of respondents reported it as an emphasis area in various degrees. The large number of specialty courses (Category IV) reported influenced the total number of course offerings and therefore the data analysis (frequency counts, means, medians, and modes). Specialty areas (Category IV) were reported most frequently. Therefore, states reporting specialty area courses had a definite influence on the frequency distributions.

Specific HOE skills was reported 72-to-86 as the emphasis area for general HOE courses (Category IV). Specific HOE skills was also reported as an emphasis area for Category I courses as well as for Category IV courses. Rotation through specialty areas was reported by only six courses as an emphasis area and was utilized in Category IV courses.

A remarkably large number (158) of secondary HOE courses utilized the pre-employment laboratory (skill

development) as the instructional design of choice, and was followed by the standard classroom design (134). Only 47 courses used the educational institution only as the instructional setting.

The health care facility only was used by eight courses in secondary HOE. Combination (Educational Institution and Health Care Facility) setting was used by 199 courses (over 87%).

Stage II of this research utilized an instrument which included two identifiable components: demographic information and the perceptionnaire. A total of 126 (50.4%) perceptionnaires (instruments) were completed, returned, and utilized in the data analysis.

The survey instrument included eight employment titles for the AVA-HOE participants. Based on the data analysis, the following conclusions were made: (1) most of the participants were secondary HOE instructors; employed in an area vocational school (47 participants) or local public school (32 participants); (2) most participants have had 5-10 years of experience (44) or over 10 years (37); (3) most participants have a bachelor's degree (53) or master's degree (41); (4) most participants were registered nurses.

The perceptionnaire was designed to obtain perceptions about the goals and practices of secondary HOE. Thirty-seven questions were developed with a predetermined number

of items related to identifiable sections of the data collection instrument used in Stage I. The items included in the perceptionnaire intentionally and inherently reflected the characteristics of the first instrument. Those items related to the scope, emphasis areas, and instructional design and setting in secondary HOE.

Respondents were directed to express agreement or disagreement with a perception statement by selecting one of five options. These five options were graduated to reveal levels of agreement or disagreement. The statements included in the perceptionnaire included negatively and positively worded items concerning all sections of the Stage I instrument.

Cross-tabulations were used to analyze demographics relating to AVA-HOE members' responses. This procedure was carried out mainly to describe the variations between members' employment, job setting, years of experience, educational level, and member's credentials.

A review of the analysis of the data resulted in an overwhelming consensus of response within the population. The concensus to agree or to disagree with perceptionnaire items were tested for significance at a .05 level.

Notable, but not statistically significant differences were revealed. Such differences were rather consistent for items Q12, Q19, Q20, and Q35 (see appendix J). Analysis

which utilized the t-test was performed to compare select groups' response means.

Secondary HOE instructors agreed to a greater degree than administrators with perceptionnaire item Q12, "All secondary HOE programs should prepare for specific entry level occupations such as nurse aide, health aide, medical laboratory aide, or orderly." However, these instructors responded with less agreement than the remaining population.

Administrators, directors, and supervisors agreed more than any group(s) or population that "A primary constraint to secondary HOE is the opinion that it leads to 'dead-end' jobs for students who are too young to choose wisely" (item Q19). As a group, the secondary HOE instructors agreed more with item Q13, "A generalist rather than a specialist role should be the major emphasis in secondary HOE curriculum" but, with less agreement than the remaining population. HOE instructors indicated less agreement with item Q28, "Topics related to health occupations such as medical terminology and medical ethics should not be included before the second course in the secondary HOE sequence." Administrators supported the precept that "HOE should include a supervised work experience, if it is to be considered occupational education" (item Q20). However, it was the secondary HOE instructors who perceived "Secondary HOE students, compared to other vocational education students,

receive adequate career exploration and preparation experience" (item Q35); the general population disagreed with this perceptionnaire item.

The overwhelming concensus of response among the population was observable throughout this study. Educators in secondary HOE, particularly the administrators, teacher educators, and secondary HOE instructors, typically agreed or disagreed in concert with the perceptionnaire items.

Recommendations

As a result of this study the following recommendations are made:

1. The findings of this study should be used as a foundation for developing an information base for effective planning of secondary health occupations education (HOE).
2. A series of detailed, formative investigations related to several of the components of the data collection instrument (instrument I--stage I) should be made.
3. Descriptive studies regarding perceptions of administrators, as perceived by faculty, students, and practicing administrators should be conducted.
4. Replicate the study using the same perceptionnaire, but rather than using a 10 percent population

(250 participants), generate a larger proportionate sample to include all five regions of the United States.

5. Replicate the study using chief state school officials that are not in the vocational health occupations education program.
6. Administer a post hoc study of former randomly selected HOE students. A study of this nature may offer insight and clarification of perceptions relating to: (1) students' HOE career goals; and (2) combining instruction with on-the-job experience in health care occupations.
7. Administer the perceptionnaire to high school students that are presently participating in a secondary health occupations program for content feedback.

A multitude of questions relating to the course topics of secondary HOE as seen by students remain to be investigated. It is imperative to determine if students' participation is most worthy of increased emphasis in general HOE skills or specialty HOE skills. Further research in secondary health occupations will contribute additional information which is needed to meet the needs of the secondary health occupations education programs as well as the secondary health occupations students.

APPENDICES

APPENDIX A

LETTER OF TRANSMITTAL

OPERATIONAL DEFINITIONS

DATA COLLECTION INSTRUMENT

Reference is made to information provided to Dr. Mildred Pittman regarding a national composite of secondary health occupations education (HOE).

Your previously supplied secondary health occupations education information has been used on the form or forms enclosed. Unfortunately, the information you supplied does not include all of the specific item information we desire.

We are asking you to supply the information required on the attached format. Before you begin to supply the requested information, please make COPIES of the instrument. The number of copies you will need is dependent upon the number of courses and/or levels that are descriptive of your secondary HOE program, i.e., "Introduction to HOE", "HOE 1", "HOE 11", "HOCT", etc.. Please refer to the accompanying definitions.

I cannot anticipate the number of pages you will be returning, therefore, if your program information requires additional pages, please add sufficient postage.

Your participation in this research that is of national interest is appreciated. It is through your cooperation that a national composite of secondary health occupations education can be completed.

Respectfully yours,

L. Jean Alfred Perry

L.Jean Alfred Perry

Even though there has been a deliberate attempt to make the instrument as self-explanatory as possible, you may have some questions about its use. Do not hesitate to call me at this phone number: (817) 382-4913. My schedule is extremely variable, therefore I suggest you call person to person or request that I return your call.

Sincerely,

Mildred Pittman

Dr. Mildred Pittman
Assistant Professor
Department of Educational Foundations
Texas Woman's University
Denton, Texas 76204

GENERAL INSTRUCTIONS: Please note your responses on the questionnaire. For purposes of this study, responses are to include only what is taught by the Secondary Health Occupations Education Instructor. Responses are to be based on the following definitions:

PREVOCATIONAL GUIDANCE:

This course offers organized activities which include occupational knowledge and general information about a variety of work settings. Examples: career or occupational orientation, occupational guidance, occupational assessment, job counseling.

EMPLOYABILITY PREPARATION (any occupation):

These programs emphasize activities which apply to any health occupation. Examples: employability skills, occupational survival skills, career exploration, assertiveness training, interpersonal relations, communications and vocational relationships, leadership and attitude skills, and work experience.

OCCUPATIONAL-AREA PREPARATION (health occupations cluster education):

These courses stress general transferable skills development. These program offerings emphasize activities which increase employability in a group of occupations which use similar knowledge, tools, materials, or methods. Examples of health occupations education (HOE) cluster: D.O.T. - Health = #355.687 through #355.887; OE Code for health cluster = 07.9802; OE Code for health assistant or aide = 07.0906.
Health assistants/aides are prepared to function as beginning members of the health team and to perform basic skills, such as taking vital signs, giving personal care to consumers, and practicing medical asepsis. Examples of program content: medical asepsis, health and hygiene, safety, first aid, and medical terminology.

OCCUPATIONAL-SPECIFIC PREPARATION (D.O.T. Health = 079.378 - Specific skill development):

These program offerings increase employability in a particular occupation but are not designed for a particular employer. Examples: program offerings organized to prepare licensed practical nurses, nurse aides, dental aides, pharmacy aides, laboratory aides, geriatric aides.

HEALTH CARE RELATED SCIENCES (no skills emphasis):

These programs emphasize offerings which build the foundation for understanding the reasons for performing job tasks and making job-related decisions. The basic related sciences for health occupations include anatomy, physiology, microbiology, chemistry, physics, mathematics, nutrition, genetics, growth and development, mental health, and basic psychology.

COURSE:

This refers to an instructional activity designed to provide specific knowledge and skills and has to be developed to be completed in an existing time frame. Example: a semester or quarter.

LEVEL:

An arrangement of course(s). The scheduled sequence requires an academic year.

SECONDARY HEALTH OCCUPATIONS EDUCATION SURVEY INSTRUMENT

This instrument has been designed to obtain information basic to the development of a national composite of secondary health occupations education.

DIRECTIONS: Please respond to the following by checking ( ), ranking and/or filling in where appropriate. Responses are to include instruction completed by the HOE Instructors/Teachers/Coordinators only.

USE A SEPARATE FORM FOR EACH LEVEL OR COURSE.

COURSE TITLE OR HOE DESIGNATION: _____.

PREREQUISITE(S): _____, _____, _____.

COURSE OR LEVEL	USUAL GRADE	# OF QUARTER(S)	OR	# OF SEMESTER(S)	HOURS PER DAY	MINUTES PER WEEK	# OF WEEKS
_____	_____	_____		_____	_____	_____	_____
_____	_____	_____		_____	_____	_____	_____
_____	_____	_____		_____	_____	_____	_____

Check ( ) only primary emphasis area(s) which accurately reflect your program level or course. PLEASE REFER TO THE DEFINITIONS ATTACHED. If you select more than one emphasis area, please rank the areas. One (1) has greater emphasis than two (2), three (3), four (4), or five (5).

_____ Pre-vocational Guidance

_____ Employability Preparation

_____ Occupational-Area Preparation (general HOE skills)

_____ Occupational-Specific Preparation (specific HOE skills)

_____ Health Care Related Sciences

_____ Other _____

INSTRUCTIONAL DESIGN. Mode of instruction most frequently used:

_____ Standard Classroom

_____ Pre-employment Laboratory (skill development)

_____ Combination of skill development and occupational experience

_____ Apprenticeship

_____ Observation of professionals in Health Care Facilities

_____ Other _____

INSTRUCTIONAL SETTING

_____ Educational Institution only

_____ Health Care Facility only

_____ Combination - Educational Institution and Health Care Facility

_____ Other _____

_____

_____

APPENDIX B

LETTER OF TRANSMITTAL II

We are still interested in developing a national composite of secondary health occupations education (HOE). The responses from most of the states to Dr. Mildred Pittman's original request did not include sufficient information.

We are asking you to supply the information required on the attached format. Before you begin to supply the requested information, please make COPIES of the instrument. The number of copies you will need is dependent upon the number of courses and/or levels that are descriptive of your secondary HOE program, i.e., "Introduction to HOE", "HOE I", "HOE II", "HOCT", etc.. Please refer to the definitions accompanying the instrument.

I cannot anticipate the number of pages you will be returning. Therefore, if your program information requires additional pages, please add sufficient postage.

Your participation in this research that is of national interest is appreciated. It is through your cooperation that a national composite of secondary health occupations education can be completed.

Respectfully yours,

L. Jean Alfred Perry

L. Jean Alfred Perry

Even though there has been a deliberate attempt to make the instrument as self-explanatory as possible, you may have some questions about its use. Do not hesitate to call me at this phone number: (817) 382-4913. My schedule is extremely variable, therefore I suggest you call person to person or request that I return your call.

Sincerely,

Mildred Pittman

Dr. Mildred Pittman
Assistant Professor
Department of Educational Foundations
Texas Woman's University
Denton, Texas 76204

APPENDIX C

FOLLOW-UP LETTER I

FOLLOW-UP LETTER II

March 24, 1981

On March 1, 1981, I mailed you an instrument concerning a national composite for secondary health occupations education.

Please complete the instrument as soon as possible and return it to me. Your assistance in developing the national composite is vital. The number of programs you have is not of importance since it is the information relating to the courses and components that is requested.

If you have misplaced the form, please call me so that I may send you another.

Sincerely yours,

L. Jean Perry

L. Jean Perry

Mildred Pittman, Ed.D.
Texas Woman's University
Box 23029, TWU Station
Denton, Texas 76204
Phone Number: (817) 382-4913

Date: March 31, 1981

To:

From: L. Jean Alfred Perry
and
Dr. Mildred Pittman
Texas Woman's University
Box 23029, T.W.U. Station
Denton, Texas 76204

Subject: Secondary Health Occupations Education Survey Instrument

We are continuing to perform a study to develop a national composite for secondary health occupations education.

Your responses have not been received as of this date.

Please note that the responses and conclusions will only be summarized for a national composite, and not according to individual states or programs. Your responses will remain anonymous to other states. There are no right or wrong answers.

It is imperative that we receive your responses immediately. Each state must have input before the composite can be finalized.

If you have any questions, please contact our office: (817) 382-4913

or home: (817) 566-1596

Thank you,

L. Jean Perry

L. Jean Perry

Dr. Mildred Pittman MP

APPENDIX D

LETTER OF TRANSMITTAL

PERCEPTIONNAIRE

Dear Respondents:

A study is being conducted to investigate perceptions about secondary health occupations education in the United States.

We are pleased to inform you that you have been selected as a prominent member of the American Vocational Association-Health Occupations Education Division.

Your participation in this study is voluntary, therefore by responding to the perceptionnaire attached to this letter, you agree to participate in the study. Anonymity is assured, no names should be written on the perceptionnaire.

No medical service or compensation is provided to subjects by the University as a result of participation.

I appreciate your participation in this research. It is only through the cooperation of persons like you that we can have a better understanding of the secondary health occupations education programs in the United States.

Sincerely yours,

L. Jean Alfred Perry

L. Jean Alfred Perry
Doctoral Candidate
Texas Woman's University

Mildred Pittman

Dr. Mildred Pittman
Dissertation Advisor
Texas Woman's University
Box 23029, TWU Station
Denton, Texas 76204

Attachments

PERCEPTIONS ABOUT SECONDARY HEALTH OCCUPATIONS EDUCATION

DIRECTIONS: Please fill out as accurately as possible. Check (✓) the appropriate blank(s).

EMPLOYMENT TITLE:

1. ___ *Administrator/Director*
2. ___ *Supervisor*
3. ___ *Curriculum Specialist*
4. ___ *Teacher Educator*
5. ___ *Secondary HOE Instructor*
6. ___ *Postsecondary HOE Instructor*
7. ___ *Adult HOE Instructor*
8. ___ *Other (Specify)* _____

JOB SETTING:

9. ___ *Government*
10. ___ *State Education Agency*
11. ___ *Area Vocational School*
12. ___ *Local Public School*
13. ___ *Community Junior College*
14. ___ *College/University*
15. ___ *Hospital or Clinic*
16. ___ *Other (Specify)* _____

YEARS OF EXPERIENCE IN PRESENT POSITION:

17. ___ *Less than 1 year*
18. ___ *1-2 years*
19. ___ *2-5 years*
20. ___ *5-10 years*
21. ___ *Over 10 years*

EDUCATION:

22. ___ *Less than two years college*
23. ___ *Associate Degree*
24. ___ *Bachelor's Degree*
25. ___ *Master's Degree*
26. ___ *Educational Specialist*
27. ___ *Doctor's Degree*

CREDENTIALS:

28. ___ *Registered Nurse*
29. ___ *Licensed Vocational Nurse*
30. ___ *Other (Specify)*

DIRECTIONS: Place an "X" in one of the five spaces on each scale. Select a space that best describes your perception about the statement.

EXAMPLE:

Health occupations education (HOE) is being taught to meet the objectives of the state's identified goals and purposes.

AGREE					*DISAGREE*
1	*2*	*3*	*4*	*5*	

31. *Secondary HOE curriculum should contain an emphasis on the Human Body (Anatomy and Physiology) including the disease process.*

AGREE					*DISAGREE*
1	*2*	*3*	*4*	*5*	

32. *The emphasis on HOE "occupations" rather than HOE "careers" may justify career awareness activities but not a career exploration activity.*

AGREE					*DISAGREE*
1	*2*	*3*	*4*	*5*	

33. *The health occupational clusters should be explored and not the needs and values of HOE student relationships to the HOE clusters.*

AGREE					*DISAGREE*
1	*2*	*3*	*4*	*5*	

34. *Work observation (observation of professionals in health care facilities) does not have the educational potential of work or even work simulation.*

AGREE					*DISAGREE*
1	*2*	*3*	*4*	*5*	

35. *A minimum of three hours daily should be scheduled for all secondary HOE Instruction.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

36. *Secondary HOE students should be required to consider several occupations in the HOE cluster before they receive instruction in a specific occupation.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

37. *Health care delivery clinical sites should be expected to supply regular employed staff to instruct HOE students in skills.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

38. *All secondary HOE courses should combine classroom and clinical instruction.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

39. *Only advanced (beyond the 1st year) HOE students should be provided an experience to teach HOE employment skills.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

40. *Cooperative education is preferred to traditional supervised clinical experience to teach HOE employment skills.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

41. *The primary purpose of secondary HOE is occupational information to provide a basis for career choice.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

42. *All secondary HOE programs should prepare for specific entry level occupations such as nurse aide, health aide, medical lab aide, or orderly.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

43. *A generalist rather than a specialist role should be the major emphasis in secondary HOE curriculum.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

44. *Health care clinical facility personnel should be relied on for a major portion of the secondary HOE student instruction.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

45. *Since most health care service equipment is so expensive, schools should rely upon the clinical health care facility to provide students instruction in equipment usage.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

46. *Secondary HOE students should receive the major portion of their skills development instruction from practitioners in the actual health care delivery site.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

47. *Work readiness should be the primary emphasis of the first course in secondary health occupations education.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

48. *Secondary HOE students could receive sufficient "work readiness" instruction from any vocational education teacher and eliminate the need for special secondary health occupations education classes.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

49. *A primary constraint to secondary HOE is the opinion that it leads to "dead-end" jobs for students who are too young to choose wisely.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

50. *Unless the secondary HOE experience includes a supervised work experience, it should not be considered occupational education.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

51. *The HOE specialty is the primary reason that so little articulation has been achieved between secondary and postsecondary HOE.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

52. *The HOE students see career mobility in the health careers as an incentive to further their education.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

53. *Active learner involvement in clinical work observation is highly desirable when work and work simulation are not practical.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

54. *An introductory health careers core course that teaches different careers that are possible plus some common skills to several different health care occupations, is necessary HOE program content.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

55. *The health careers cluster courses should teach skills common to several different health care occupations plus provide "hands-on" experience in several occupations of the students choice.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

56. *Students having made a specific health occupation decision should have an opportunity to learn an assistant level job skills.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

57. *All secondary HOE instruction should be organized to prepare students for occupational objectives concerned with assisting qualified personnel.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

58. *Topics related to health occupations such as medical terminology and medical ethics should not be included before the second course in the secondary HOE sequence.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

59. *The present content of secondary HOE is sufficient to guide students in their career choices.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

60. *Career choices would be enhanced if the secondary HOE content (Introduction to HOE) was available in the 9th grade.*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

61. *The 10th grade may be considered an appropriate time to offer "Introduction to Secondary HOE."*

AGREE ___ ___ ___ ___ ___ DISAGREE
1 2 3 4 5

62. *The majority of state programs begin secondary HOE at the 9th grade.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

63. *Secondary HOE programs should be deliberately arranged to avoid possible conflict with college admission course requirements, i.e. algebra, chemistry, biology, etc.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

64. *A major emphasis should be placed upon skills development with the expectation of adapting to any specific health care setting.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

65. *Secondary HOE students, compared to other vocational education students, receive adequate career exploration and preparation experiences.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

66. *The average age of secondary HOE students in the 11th and 12th grades, does not place limitations on their career exploration and preparation.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

67. *Secondary HOE programs should be allowed to operate summer programs.*

AGREE ___ ___ ___ ___ ___ *DISAGREE*
1 2 3 4 5

THE FOLLOWING LIST OF PROGRAMS HAVE BEEN IDENTIFIED FROM A NATIONAL SURVEY OF EXISTING SECONDARY HOE PROGRAM AREAS. PLEASE RANK THESE AREAS BASED ON YOUR PERCEPTION OF NEED (#1 is most needed, 2....13).

68. ___ *Nurse Assistant*

69. ___ *Community Health Aide*

70. ___ *Medical Office Assistant*

71. ___ *Rehabilitation Aide*

72. ___ *Medical Laboratory Aide*

73. ___ *Practical Nurse*

74. ___ *Dental Assistant*

75. ___ *Health Aide*

76. ___ *Geriatric Aide*

77. ___ *Pharmacy Aide*

78. ___ *Emergency Medical Assistant*

79. ___ *Home Health Aide*

80. ___ *Other*

THANK YOU FOR YOUR COOPERATION. INSERT THIS INSTRUMENT IN THE STAMPED, SELF-ADDRESSED ENVELOPE PROVIDED AND MAIL TODAY.

APPENDIX E

RANKED SECONDARY HOE PROGRAMS AND MEANS

RANKED SECONDARY HOE PROGRAMS AND MEANS

The following secondary HOE programs were identified in Stage I of this research study. The perceptionnaire (instrument) included a request for ranking the identified programs. The ranked programs and means:

	Programs	Means
1.	Nurse Assistant	3.390
2.	Geriatric Aide	3.950
3.	Practical Nurse	4.143
4.	Home Health Aide	5.057
5.	Community Health Aide	6.702
6.	Dental Assistant	6.703
7.	Health Aide	6.786
8.	Medical Office Assistant	6.992
9.	Rehabilitation Aide	7.689
10.	Emergency Medical Assistant	7.887
11.	Medical Laboratory Aide	8.155
12.	Pharmacy Aide	

APPENDIX F

FREQUENCY OF SECONDARY HOE COURSES BY STATE

FREQUENCY OF SECONDARY HOE COURSES BY STATE

States	Absolute freq	Relative freq(%)	Adjusted freq(%)	Cum freq(%)
ALABAMA	3	1.3	1.3	1.3
ARIZONA	4	1.8	1.8	64.8
CALIFORNIA	4	1.8	1.8	63.0
COLORADO	5	2.2	2.2	68.7
CONNECTICUT	4	1.8	1.8	3.1
FLORIDA	15	6.6	6.6	9.7
GEORGIA	3	1.3	1.3	11.0
IDAHO	4	1.8	1.8	12.8
ILLINOIS	4	1.8	1.8	14.5
INDIANA	40	17.6	17.6	100.0
IOWA	2	0.9	0.9	79.7
KANSAS	8	3.5	3.5	18.1
KENTUCKY	2	0.9	0.9	18.9
LOUISIANA	14	6.2	6.2	25.1
MAINE	7	3.1	3.1	28.1
MARYLAND	4	1.8	1.8	66.5
MASSACHUSETTS	6	2.6	2.6	82.4
MICHIGAN	16	7.0	7.0	35.2
MISSISSIPPI	1	0.4	0.4	78.9
MISSOURI	1	0.4	0.4	35.7
NEBRASKA	13	5.7	5.7	41.4
NEW MEXICO	2	0.9	0.9	42.3
NEW HAMPSHIRE	2	0.9	0.9	72.7

STATES AND COURSES (CONTINUED)

NEW JERSEY	13	5.7	5.7	78.4
NEW MEXICO	2	0.9	0.9	42.3
NORTH CAROLINA	3	1.3	1.3	43.6
NORTH DAKOTA	3	1.3	1.3	44.9
OHIO	7	3.1	3.1	48.0
OKLAHOMA	3	1.3	1.3	49.3
OREGON	1	0.4	0.4	49.8
PENNSYLVANIA	2	0.9	0.9	50.7
SOUTH CAROLINA	2	0.9	0.9	51.5
SOUTH DAKOTA	1	0.4	0.4	52.0
TEXAS	4	1.8	1.8	53.7
UTAH	8	3.5	3.5	57.3
VIRGINIA	3	1.3	1.3	58.6
VIRGIN ISLANDS	3	1.3	1.3	59.9
WASHINGTON	3	1.3	1.3	61.2
WYOMING	7	1.3	1.3	71.0
Total	227	100.0	100.0	

APPENDIX G

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS

AVA-HOE DIVISIONAL RESPONDENTS

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS

AVA-HOE DIVISIONAL RESPONDENTS

Population = 126

Q1 - Q37 = Perceptionnaire Items 1 - 37

Q1					
Mean	2.128	Median	1.635	Mode	1.000
Valid cases	125	Missing cases	1		
Q2					
Mean	3.177	Median	3.167	Mode	3.000
Valid cases	124	Missing cases	2		
Q3					
Mean	3.512	Median	3.672	Mode	5.000
Valid cases	125	Missing cases	1		
Q4					
Mean	2.912	Median	2.813	Mode	1.000
Valid cases	125	Missing cases	1		
Q5					
Mean	2.833	Median	2.909	Mode	1.000
Valid cases	126	Missing cases	0		
Q6					
Mean	2.214	Median	1.803	Mode	1.000
Valid cases	126	Missing cases	0		
Q7					
Mean	3.778	Median	4.318	Mode	5.000
Valid cases	126	Missing cases	0		
Q8					
Mean	2.096	Median	1.406	Mode	1.000
Valid cases	125	Missing cases	1		
Q9					
Mean	2.984	Median	3.000	Mode	1.000
Valid cases	126	Missing cases	0		
Q10					
Mean	3.492	Median	3.717	Mode	5.000
Valid cases	126	Missing cases	0		

APPENDIX G (CONTINUED)

Q11					
Mean	2.825	Median	2.500	Mode	1.000
Valid cases	126	Missing cases	0		
Q12					
Mean	2.552	Median	2.250	Mode	1.000
Valid cases	125	Missing cases	1		
Q13					
Mean	2.627	Median	2.300	Mode	1.000
Valid cases	126	Missing cases	0		
Q14					
Mean	3.935	Median	4.371	Mode	5.000
Valid cases	124	Missing cases	2		
Q15					
Mean	3.341	Median	3.460	Mode	5.000
Valid cases	126	Missing cases	0		
Q16					
Mean	3.706	Median	4.045	Mode	5.000
Valid cases	126	Missing cases	0		
Q17					
Mean	2.944	Median	2.833	Mode	1.000
Valid cases	126	Missing cases	0		
Q18					
Mean	4.214	Median	4.625	Mode	5.000
Valid cases	126	Missing cases	0		
Q19					
Mean	3.635	Median	4.033	Mode	5.000
Valid cases	126	Missing cases	0		
Q20					
Mean	2.214	Median	1.786	Mode	1.000
Valid cases	126	Missing cases	0		
Q21					
Mean	3.298	Median	3.371	Mode	5.000
Valid cases	124	Missing cases	2		
Q22					
Mean	2.087	Median	1.900	Mode	1.000
Valid cases	126	Missing cases	0		

APPENDIX G (CONTINUED)

Q23					
Mean	1.929	Median	1.565	Mode	1.000
Valid cases	126	Missing cases	0		
Q24					
Mean	1.976	Median	1.621	Mode	1.000
Valid cases	126	Missing cases	0		
Q25					
Mean	2.040	Median	1.688	Mode	1.000
Valid cases	126	Missing cases	0		
Q26					
Mean	1.921	Median	1.628	Mode	1.000
Valid cases	126	Missing cases	0		
Q27					
Mean	2.270	Median	2.016	Mode	1.000
Valid cases	126	Missing cases	0		
Q28					
Mean	3.817	Median	3.098	Mode	3.000
Valid cases	126	Missing cases	0		
Q29					
Mean	3.112	Median	3.098	Mode	3.000
Valid cases	125	Missing cases	1		
Q30					
Mean	2.712	Median	2.520	Mode	1.000
Valid cases	125	Missing cases	1		
Q31					
Mean	2.352	Median	2.014	Mode	1.000
Valid cases	125	Missing cases	1		
Q32					
Mean	4.065	Median	4.539	Mode	5.000
Valid cases	123	Missing cases	3		
Q33					
Mean	2.008	Median	1.413	Mode	1.000
Valid cases	126	Missing cases	0		
Q34					
Mean	2.159	Median	1.955	Mode	2.000
Valid cases	126	Missing cases	0		

APPENDIX G (CONTINUED)

Q35					
Mean	2.683	Median	2.603	Mode	3.000
Valid cases	123	Missing cases	3		
Q36					
Mean	2.752	Median	2.519	Mode	2.000
Valid cases	125	Missing cases	1		
Q37					
Mean	2.437	Median	2.130	Mode	1.000
Valid cases	126	Missing cases	0		

APPENDIX H

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS ADMINISTRATORS OR DIRECTORS AND SUPERVISORS

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS

ADMINISTRATORS OR DIRECTORS AND SUPERVISORS

Sample Population = 30

Q1 - Q37 = Perceptionnaire Items 1 - 37

Q1					
Mean	2.233	Median	1.700	Mode	1.000
Valid cases	30	Missing cases	0		
Q2					
Mean	2.933	Median	2.955	Mode	3.000
Valid cases	30	Missing cases	0		
Q3					
Mean	3.267	Median	3.357	Mode	3.000
Valid cases	30	Missing cases	0		
Q4					
Mean	3.200	Median	3.625	Mode	2.000
Valid cases	30	Missing cases	0		
Q5					
Mean	3.033	Median	3.214	Mode	4.000
Valid cases	30	Missing cases	0		
Q6					
Mean	2.033	Median	1.808	Mode	2.000
Valid cases	30	Missing cases	0		
Q7					
Mean	3.733	Median	4.167	Mode	5.000
Valid cases	30	Missing cases	0		
Q8					
Mean	1.867	Median	1.289	Mode	1.000
Valid cases	30	Missing cases	0		
Q9					
Mean	2.800	Median	2.500	Mode	1.000
Valid cases	30	Missing cases	0		
Q10					
Mean	3.667	Median	4.000	Mode	5.000
Valid cases	30	Missing cases	0		

APPENDIX H (CONTINUED)

Q11					
Mean	2.500	Median	2.167	Mode	1.000
Valid cases	30	Missing cases	0		
Q12					
Mean	2.967	Median	3.167	Mode	1.000
Valid cases	30	Missing cases	0		
Q13					
Mean	3.100	Median	3.500	Mode	5.000
Valid cases	30	Missing cases	0		
Q14					
Mean	4.067	Median	4.563	Mode	5.000
Valid cases	30	Missing cases	0		
Q15					
Mean	3.433	Median	3.700	Mode	5.000
Valid cases	30	Missing cases	0		
Q16					
Mean	3.500	Median	3.833	Mode	5.000
Valid cases	30	Missing cases	0		
Q17					
Mean	3.300	Median	3.300	Mode	5.000
Valid cases	30	Missing cases	0		
Q18					
Mean	4.267	Median	4.423	Mode	5.000
Valid cases	30	Missing cases	0		
Q19					
Mean	2.867	Median	3.000	Mode	1.000
Valid cases	30	Missing cases	0		
Q20					
Mean	1.767	Median	1.500	Mode	3.000
Valid cases	30	Missing cases	0		
Q21					
Mean	3.310	Median	3.250	Mode	3.000
Valid cases	29	Missing cases	1		
Q22					
Mean	2.233	Median	2.071	Mode	1.000
Valid cases	30	Missing cases	0		

APPENDIX H (CONTINUED)

Q23					
Mean	1.900	Median	1.438	Mode	1.000
Valid cases	30	Missing cases	0		
Q24					
Mean	1.767	Median	1.333	Mode	1.000
Valid cases	30	Missing cases	0		
Q25					
Mean	1.733	Median	1.333	Mode	1.000
Valid cases	30	Missing cases	0		
Q26					
Mean	1.933	Median	1.438	Mode	1.000
Valid cases	30	Missing cases	0		
Q27					
Mean	2.467	Median	2.214	Mode	1.000
Valid cases	30	Missing cases	0		
Q28					
Mean	3.333	Median	3.750	Mode	5.000
Valid cases	30	Missing cases	0		
Q29					
Mean	3.379	Median	3.350	Mode	3.000
Valid cases	29	Missing cases	1		
Q30					
Mean	2.793	Median	2.714	Mode	1.000
Valid cases	29	Missing cases	1		
Q31					
Mean	2.069	Median	1.909	Mode	2.000
Valid cases	29	Missing cases	1		
Q32					
Mean	3.793	Median	3.917	Mode	5.000
Valid cases	29	Missing cases	1		
Q33					
Mean	1.800	Median	1.289	Mode	1.000
Valid cases	30	Missing cases	0		
Q34					
Mean	2.333	Median	2.136	Mode	2.000
Valid cases	30	Missing cases	0		

APPENDIX H (CONTINUED)

Q35					
Mean	2.929	Median	2.500	Mode	2.000
Valid cases	28	Missing cases	2		
Q36					
Mean	2.967	Median	2.667	Mode	2.000
Valid cases	30	Misssing cases	0		
Q37					
Mean	2.033	Median	1.643	Mode	1.000
Valid cases	30	Missing cases	0		

APPENDIX I

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS

SECONDARY HEALTH OCCUPATIONS EDUCATION INSTRUCTORS

FREQUENCY COUNTS OF PERCEPTIONNAIRE ITEMS

SECONDARY HEALTH OCCUPATIONS EDUCATION INSTRUCTORS

Sample Population = 45

Q1 - Q37 = Perceptionnaire Items 1 - 37

Q1					
Mean	1.867	Median	1.478	Mode	1.000
Valid cases	45	Missing cases	0		
Q2					
Mean	3.267	Median	3.222	Mode	5.000
Valid cases	45	Missing cases	0		
Q3					
Mean	3.600	Median	3.778	Mode	5.000
Valid cases	45	Missing cases	0		
Q4					
Mean	2.756	Median	2.364	Mode	1.000
Valid cases	45	Missing cases	0		
Q5					
Mean	2.978	Median	3.250	Mode	1.000
Valid cases	45	Missing cases	0		
Q6					
Mean	2.333	Median	1.750	Mode	1.000
Valid cases	45	Missing cases	0		
Q7					
Mean	3.578	Median	3.813	Mode	5.000
Valid cases	45	Missing cases	0		
Q8					
Mean	2.000	Median	1.380	Mode	1.000
Valid cases	44	Missing cases	1		
Q9					
Mean	3.067	Median	3.000	Mode	5.000
Valid cases	45	Missing cases	0		
Q10					
Mean	3.156	Median	3.250	Mode	5.000
Valid cases	45	Missing cases	0		

APPENDIX I (CONTINUED)

Q11					
Mean	3.111	Median	3.143	Mode	5.000
Valid cases	45	Missing cases	0		
Q12					
Mean	2.156	Median	1.667	Mode	1.000
Valid cases	45	Missing cases	0		
Q13					
Mean	2.511	Median	2.250	Mode	1.000
Valid cases	45	Missing cases	0		
Q14					
Mean	3.909	Median	4.250	Mode	5.000
Valid cases	44	Missing cases	1		
Q15					
Mean	3.178	Median	3.313	Mode	4.000
Valid cases	45	Missing cases	0		
Q16					
Mean	3.667	Median	3.906	Mode	4.000
Valid cases	45	Missing cases	0		
Q17					
Mean	2.933	Median	2.750	Mode	2.000
Valid cases	45	Missing cases	0		
Q18					
Mean	4.133	Median	4.667	Mode	5.000
Valid cases	45	Missing cases	0		
Q19					
Mean	3.978	Median	4.250	Mode	5.000
Valid cases	45	Missing cases	0		
Q20					
Mean	2.489	Median	2.063	Mode	1.000
Valid cases	45	Missing cases	0		
Q21					
Mean	3.178	Median	3.429	Mode	4.000
Valid cases	45	Missing cases	0		
Q22					
Mean	2.156	Median	1.964	Mode	1.000
Valid cases	45	Missing cases	0		

APPENDIX I (CONTINUED)

Q23					
Mean	1.800	Median	1.438	Mode	1.000
Valid cases	45	Missing cases	0		
Q24					
Mean	1.933	Median	1.478	Mode	1.000
Valid cases	45	Missing cases	0		
Q25					
Mean	2.022	Median	1.556	Mode	1.000
Valid cases	45	Missing cases	0		
Q26					
Mean	1.711	Median	1.478	Mode	1.000
Valid cases	45	Missing cases	0		
Q27					
Mean	1.978	Median	1.679	Mode	1.000
Valid cases	45	Missing cases	0		
Q28					
Mean	4.067	Median	4.724	Mode	5.000
Valid cases	45	Missing cases	0		
Q29					
Mean	2.867	Median	2.895	Mode	3.000
Valid cases	45	Missing cases	0		
Q30					
Mean	2.622	Median	2.083	Mode	1.000
Valid cases	45	Missing cases	0		
Q31					
Mean	2.422	Median	1.909	Mode	1.000
Valid cases	45	Missing cases	0		
Q32					
Mean	4.267	Median	4.696	Mode	5.000
Valid cases	45	Missing cases	0		
Q33					
Mean	2.000	Median	1.400	Mode	1.000
Valid cases	45	Missing cases	0		
Q34					
Mean	2.022	Median	1.844	Mode	1.000
Valid cases	45	Missing cases	0		

APPENDIX I (CONTINUED)

Q35					
Mean	2.133	Median	1.818	Mode	1.000
Valid cases	45	Missing cases	0		
Q36					
Mean	2.568	Median	2.227	Mode	1.000
Valid cases	44	Missing cases	1		
Q37					
Mean	2.400	Median	2.091	Mode	1.000
Valid cases	45	Missing cases	0		

APPENDIX J

t-TEST ANALYSIS

ADMINISTRATORS VERSUS SECONDARY HOE INSTRUCTORS

SECONDARY HOE INSTRUCTORS VERSUS REMAINING POPULATION

ADMINISTRATORS OR DIRECTORS AND SUPERVISORS VERSUS REMAINING POPULATION

ADMINISTRATORS VERSUS SECONDARY HOE INSTRUCTORS

Variable	Number of cases	Mean	F Value	2-tail Prob.	Separate variance estimate T Value	Degrees of Freedom	2-tail Prob.
Q1							
Group 1	30	2.2333	1.47	.241	1.15	53.91	0.257
Group 2	45	1.8667					
Q2							
Group 1	30	2.9333	1.18	.647	-1.02	65.74	0.311
Group 2	45	3.2667					
Q3							
Group 1	30	3.2667	1.04	.896	-1.05	61.51	0.300
Group 2	45	3.6000					
Q4							
Group 1	30	3.2000	1.05	.907	1.23	63.33	0.223
Group 2	45	2.7556					
Q5							
Group 1	30	3.0333	1.31	.450	0.16	67.69	0.877
Group 2	45	2.9778					
Q6							
Group 1	30	2.0333	1.62	.171	-0.98	70.96	0.329
Group 2	45	2.3333					
Q7							
Group 1	30	3.7333	1.03	.958	0.47	62.86	0.638
Group 2	45	3.5778					

Q8							
Group 1	30	1.8667					
Group 2	45	2.0000	1.05	.914	-0.40	63.37	0.688
Q9							
Group 1	30	2.8000					
Group 2	45	3.0667	1.23	.521	-0.68	57.71	0.499
Q10							
Group 1	30	3.6667					
Group 2	45	3.1556	1.12	.753	1.49	64.75	0.141
Q11							
Group 1	30	2.5000					
Group 2	45	3.1111	1.05	.863	-1.74	61.20	0.086
Q12							
Group 1	30	2.9667					
Group 2	45	2.1556	1.61	.150	2.16	52.09	0.036
Q13							
Group 1	30	3.1000					
Group 2	45	2.5111	1.34	.376	1.60	55.94	0.115
Q14							
Group 1	30	4.0667					
Group 2	45	3.9091	1.01	.997	0.54	62.64	0.591
Q15							
Group 1	30	3.4333					
Group 2	45	3.1778	1.27	.468	0.74	57.10	0.460
Q16							
Group 1	30	3.5000					
Group 2	45	3.6667	1.37	.337	0.51	55.40	0.609

Q17							
Group 1	30	3.5000	1.01	.989	1.04	62.58	0.301
Group 2	45	3.6667					
Q18							
Group 1	30	4.2667	1.76	.110	0.52	71.83	0.602
Group 2	45	4.1333					
Q19							
Group 1	30	2.8667	1.68	.118	-3.38	51.28	0.001
Group 2	45	3.9778					
Q20							
Group 1	30	1.7667	2.79	.005	-2.50	72.32	0.015
Group 2	45	2.4889					
Q21							
Group 1	30	3.3103	1.06	.895	0.38	61.07	0.704
Group 2	45	3.1778					
Q22							
Group 1	30	2.2333	1.10	.765	0.27	60.26	0.784
Group 2	45	2.1556					
Q23							
Group 1	30	1.9000	1.50	.220	0.37	53.53	0.715
Group 2	45	1.8000					
Q24							
Group 1	30	1.7667	1.13	.697	-0.58	59.59	0.565
Group 2	45	1.9333					
Q25							
Group 1	30	1.7333	1.04	.935	-0.99	63.07	0.326
Group 2	45	2.0222					

Q26							
Group 1	30	1.9333	2.06	.030	0,82	47.52	0,414
Group 2	45	1.7111					
Q27							
Group 1	30	2.4667	1.48	.237	1.58	53,84	0.120
Group 2	45	1.9778					
Q28							
Group 1	30	3.3333	1.18	.607	-2.06	58,66	0,044
Group 2	45	4.0667					
Q29							
Group 1	29	3.3793	1.00	1.000	1.83	59.96	0.073
Group 2	45	2.8667					
Q30							
Group 1	29	2.7931	1.49	.269	0.46	67.77	0.646
Group 2	45	2.6222					
Q31							
Group 1	29	2.0690	2.01	.053	-1.14	71.34	0.257
Group 2	45	2.4222					
Q32							
Group 1	29	3.7931	1.09	.784	-1.68	58.01	0.099
Group 2	45	4.2667					
Q33							
Group 1	30	1.8000	1.13	.730	-0.64	64.96	0.526
Group 2	45	2.0000					
Q34							
Group 1	30	2,3333	1.32	.396	1.15	56.21	0.257
Group 2	45	2.0222					

Q35							
Group 1	28	2.9286	1.14	.683	2.49	54.52	0.016
Group 2	45	2.1333					
Q36							
Group 1	30	2.9667	1.10	.801	1.18	64.36	0.243
Group 2	44	2.5682					
Q37							
Group 1	30	2.0333	1.22	.581	-1.17	66.37	0.245
Group 2	45	2.4000					

SECONDARY HOE INSTRUCTORS VERSUS REMAINING POPULATION

Variable	Number of cases	Mean	F Value	2-tail Prob.	Separate variance estimate T Value	Degrees of Freedom	2-tail Prob.
Q1							
Group 1	45	1.8667	1.37	.252	-1.72	103.78	0.089
Group 2	80	2.2750					
Q2							
Group 1	45	3.2667	1.34	.258	0.54	81.08	0.589
Group 2	79	3.1266					
Q3							
Group 1	45	3.6000	1.12	.642	0.56	86.94	0.575
Group 2	80	3.4625					
Q4							
Group 1	45	2.7556	1.05	.838	-0.85	89.51	0.397
Group 2	80	3.0000					
Q5							
Group 1	45	2.9778	1.20	.472	0.76	84.21	0.447
Group 2	81	2.7531					
Q6							
Group 1	45	2.3333	1.30	.306	0.70	81.45	0.483
Group 2	81	2.1481					
Q7							
Group 1	45	3.5778	1.00	.977	-1.19	90.98	0.237
Group 2	81	3.8889					

Q8							
Group 1	44	2.0000	1.14	.650	-0.55	93.44	0.586
Group 2	81	2.1481					
Q9							
Group 1	45	3.0667	1.07	.808	0.44	93.83	0.663
Group 2	81	2.9383					
Q10							
Group 1	45	3.1556	1.25	.388	-1.94	82.88	0.056
Group 2	81	3.6790					
Q11							
Group 1	45	3.1111	1.11	.725	1.60	94.98	0.113
Group 2	81	2.6667					
Q12							
Group 1	45	2.1556	1.26	.400	-2.33	100.52	0.022
Group 2	80	2.7750					
Q13							
Group 1	45	2.5111	1.20	.508	-0.66	98.33	0.513
Group 2	81	2.6914					
Q14							
Group 1	44	3.9091	1.14	.641	-0.17	93.86	0.864
Group 2	80	3.9500					
Q15							
Group 1	45	3.1778	1.13	.662	-0.99	95.89	0.326
Group 2	81	3.4321					
Q16							
Group 1	45	3.6667	1.28	.377	-0.25	100.74	0.799
Group 2	81	3.7284					

Q17							
Group 1	45	2.9333	1.00	1.000	-0.06	91.05	0.951
Group 2	81	2.9506					
Q18							
Group 1	45	4.1333	1.32	.284	-0.56	81.03	0.574
Group 2	81	4.2593					
Q19							
Group 1	45	3.9778	1.70	.058	2.18	111.52	0.031
Group 2	81	3.4444					
Q20							
Group 1	45	2.4889	1.62	.063	1.58	74.61	0.118
Group 2	81	2.0617					
Q21							
Group 1	45	3.1778	1.27	.348	-0.71	82.80	0.478
Group 2	79	3.3671					
Q22							
Group 1	45	2.1556	1.16	.555	0.50	85.42	0.617
Group 2	81	2.0494					
Q23							
Group 1	45	1.8000	1.36	.264	-1.00	103.29	0.320
Group 2	81	2.0000					
Q24							
Group 1	45	1.9333	1.03	.929	-0.30	92.21	0.762
Group 2	81	2.0000					
Q25							
Group 1	45	2.0222	1.08	.744	-0.12	87.99	0.906
Group 2	81	2.0494					

Q26							
Group 1	45	1.7111	1.86	.027	-1.71	114.53	0.089
Group 2	81	2.0370					
Q27							
Group 1	45	1.9778	1.27	.394	-2.02	100.39	0.046
Group 2	81	2.4321					
Q28							
Group 1	45	4.0667	1.08	.804	1.43	93.88	0.155
Group 2	81	3.6790					
Q29							
Group 1	45	2.8667	1.06	.834	-1.72	93.76	0.088
Group 2	80	3.2500					
Q30							
Group 1	45	2.6222	1.54	.095	-0.46	76.32	0.644
Group 2	80	2.7625					
Q31							
Group 1	45	2.4222	1.46	.140	0.40	77.90	0.689
Group 2	80	2.3125					
Q32							
Group 1	45	4.2667	1.01	.948	1.47	91.52	0.144
Group 2	78	3.9487					
Q33							
Group 1	45	2.0000	1.01	.977	-0.05	91.59	0.962
Group 2	81	2.0123					
Q34							
Group 1	45	2.0222	1.31	.332	-1.03	101.68	0.307
Group 2	81	2.0123					

Q35							
Group 1	45	2.1333	1.03	.940	-3.62	92.95	0.000
Group 2	78	3.0000					
Q36							
Group 1	44	2.5682	1.29	.330	-1.07	79.38	0.286
Group 2	81	2.8519					
Q37							
Group 1	45	2.4000	1.10	.733	-0.21	94.86	0.831
Group 2	81	2.4568					

ADMINISTRATORS OR DIRECTORS AND SUPERVISORS VERSUS REMAINING POPULATION

Variable	Number of cases	Mean	F Value	2-tail Prob.	Separate variance estimate T Value	Degrees of Freedom	2-tail Prob.
Q1							
Group 1	30	2.2333	1.23	.458	0.47	44.93	0.644
Group 2	95	2.0947					
Q2							
Group 1	30	2.9333	1.03	.886	-1.15	48.36	0.255
Group 2	94	3.2553					
Q3							
Group 1	30	3.2667	1.17	.558	-1.15	45.71	0.256
Group 2	95	3.5895					
Q4							
Group 1	30	3.2000	1.02	1.000	1.19	49.03	0.240
Group 2	95	2.8211					
Q5							
Group 1	30	3.0333	1.22	.559	0.86	52.90	0.395
Group 2	96	2.7708					
Q6							
Group 1	30	2.0333	1.50	.217	-0.93	58.55	0.358
Group 2	96	2.2708					
Q7							
Group 1	30	3.7333	1.05	.919	-0.20	49.49	0.842
Group 2	96	3.7917					

Q8							
Group 1	30	1.8667					
Group 2	95	2.1684	1.18	.635	-1.02	52.30	0.312
Q9							
Group 1	30	2.8000					
Group 2	96	3.0417	1.25	.422	-0.68	44.49	0.497
Q10							
Group 1	30	3.6667					
Group 2	96	3.4375	1.01	1.000	0.77	48.66	0.445
Q11							
Group 1	30	2.5000					
Group 2	96	2.9271	1.03	.971	-1.35	49.07	0.182
Q12							
Group 1	30	2.9667					
Group 2	95	2.4211	1.52	.135	1.57	41.72	0.124
Q13							
Group 1	30	3.1000					
Group 2	96	2.4792	1.30	.342	1.85	43.82	0.070
Q14							
Group 1	30	4.0667					
Group 2	94	3.8936	1.13	.729	0.66	51.59	0.512
Q15							
Group 1	30	3.4333					
Group 2	96	3.3125	1.22	.466	0.39	44.84	0.700
Q16							
Group 1	30	3.5000					
Group 2	96	3.7708	1.24	.441	-0.91	44.64	0.368

Q17							
Group 1	30	3.3000					
Group 2	96	2.8333	1.01	.941	1.50	48.39	0.140
Q18							
Group 1	30	4.2667					
Group 2	96	4.1979	1.64	.129	0.32	61.48	0.747
Q19							
Group 1	30	2.8667					
Group 2	96	3.8750	1.33	.310	-3.26	43.53	0.002
Q20							
Group 1	30	1.7667					
Group 2	96	2.3542	2.41	.009	-2.60	75.91	0.011
Q21							
Group 1	29	3.3103					
Group 2	95	3.2947	1.12	.658	0.05	44.29	0.959
Q22							
Group 1	30	2.2333					
Group 2	96	2.0417	1.29	.354	0.77	43.92	0.445
Q23							
Group 1	30	1.9000					
Group 2	96	1.9375	1.29	.361	-0.15	43.98	0.883
Q24							
Group 1	30	3.5000					
Group 2	96	3.7708	1.24	.441	-0.91	44.64	0.368
Q25							
Group 1	30	1.7333					
Group 2	96	2.0417	1.16	.576	-1.07	45.68	0.291

Q26							
Group 1	30	1.9333	1.43	.198	0.06	42.40	0.949
Group 2	96	1.9167					
Q27							
Group 1	30	2.4667	1.33	.310	0.90	43.53	0.371
Group 2	96	2.2083					
Q28							
Group 1	30	3.3333	1.20	.504	-1.99	45.14	0.053
Group 2	96	3.9683					
Q29							
Group 1	29	3.3793	1.07	.870	1.38	47.55	0.173
Group 2	96	3.0313					
Q30							
Group 1	29	2.7931	1.20	.600	0.34	50.00	0.734
Group 2	96	2.6875					
Q31							
Group 1	29	2.0690	1.75	.091	-1.46	60.54	0.150
Group 2	96	2.4375					
Q32							
Group 1	29	3.7931	1.13	.649	-1.41	44.40	0.166
Group 2	94	4.1489					
Q33							
Group 1	30	1.8000	1.18	.628	-0.99	52.15	0.329
Group 2	96	2.0729					
Q34							
Group 1	30	2.3333	1.14	.629	0.92	46.07	0.364
Group 2	96	2.1042					

Q35							
Group 1	28	2.9286	1.03	.880	1.09	43.64	0.281
Group 2	95	2.6105					
Q36							
Group 1	30	2.9667	1.08	.750	0.97	47.14	0.336
Group 2	95	2.6842					
Q37							
Group 1	30	2.0333	1.35	.361	-1.91	55.60	0.061
Group 2	96	2.5625					

LIST OF REFERENCES

LIST OF REFERENCES

Avery, R. et al. Toward an allied health today (Operation TACT). Final evaluation report and final report. Storrs: Connecticut University, School of Allied Health Professions, 1975. (ED 123 422)

Barlow, M. L. et al. A new source of manpower. Los Angeles: University of California, Division of Vocational Education, 1972. (ED 063 476)

Barlow, M. L. 200 years of vocational education 1776-1976. American Vocational Journal, May 1976, p. 83.

Barton, B. R. Equal time for students: A plug for the core curriculum. American Vocational Journal, 49, 57-58. (ED 103 758)

Burkett, L. A. Vocational Education Act of 1963. American Vocational Journal, May 1976, p. 82.

Borkovich, G. S., and Welch, F. G. Research report of a supply and demand of secondary health occupations teachers in Pennsylvania. University Park: Pennsylvania State University, 1975.

Byers, B. B. et al. The development of job-related curricula using task analysis. Allied Health Professions Project. Pittsburgh, Pennsylvania: Educational Projects, 1973. (ED 093 887)

Calhoun, H. Health occupations: Grade 8. Cluster II. Washington, D.C.: District of Columbia Public Schools, Department of Career Development; Metropolitan Education Council for Staff Development, 1972. (ED 089 010)

Calhourn, C. C., and Finch, A. V. Vocational and career education concepts and operation. Belmont, California: Wadsworth Publishing Company, 1976.

Chirikos, T. Allied health manpower in Ohio: Employment trends. Ohio State Advisory Council for Vocational Education. 1972. (ED 075 644)

Coleman, J. A. How do the young become adults? Review of Educational Research. Fall 1972. 431-440.

Darcy, R. L. Manpower in a changing curriculum. American Vocational Association Journal. March 1969.

Dolfman, M. Sub-bachelor's degree in allied health education in Pennsylvania. Journal of Allied Health. 3(Fall 1974), 147-156. (EJ 105 457)

Downie, N. M. and Heath, R. W. Basic statistical methods. New York: Harper and Row, Publishers, 1974.

Evans, R. N. Foundations of vocational education. Columbus, Ohio: Charles E. Merrill Publishing Company, 1971.

Evans, R. N. Broad and specific types of vocational education. Journal of American Vocational Education, January 1981.

Fielstra, C. and Chrispin, B. Evaluative report on Phase II of the secondary schools project for an introduction to the allied health professions. Los Angeles: University of California, 1972. (ED 075 665)

Frey, D. C. Futurism and health occupations education: The implications of changes in the delivery system. Address to Health Occupations Education Division at the Annual Meeting of the American Vocational Association, Atlanta, Georgia, 1973. (ED 091 502)

Goode, W. J. and Hatt, P. L. Methods in social research. New York: McGraw-Hill Book Company, 1952.

Gullion, C. and Gilpatrick, E. The design of curriculum guidelines for educational ladders using task data. Working Paper No. 11. Bethesda, Maryland: National Institute of Health (DHEW), Division of Allied Health Manpower, 1973. (EJ 085 471)

Haddad, J. Health manpower and vocational education: The Texas connection. American Vocational Journal. 53 (April 1978), 37-38. (EF 180 916)

Holloway, L. P. and Kerr, E. E. Review and syntheses of research in health occupations education. Columbus: The Ohio State University, The National Center for Research in Vocational Education, 1969.

Hoyt, K. B. et al. Career education: What it is and how to do it. 2nd edition. Salt Lake City, Utah, 1974.

Hoyt, K. B. Straight answers on career education. Today's Education. 64(Number 1, January 1975), 60-62.

Karlin, M. S. Administrative guide to a particular vocation. New York: Parker Publishing Company, 1974, p. 25.

Lewis, W. B. Review and analysis of curricula for occupations in health. Columbus: The Ohio State University, The National Center for Research in Vocational Education, 1970. (ED 044 507)

London, H. H. Principles and techniques of vocational guidance. Columbus, Ohio: Charles E. Merrill Publishing Co., 1973.

Marland, S. P. Career education: 300 days later. American Vocational Journal. February 1972, pp. 2, 53.

Milliken, M. E. Health careers education programs in Georgia high schools. Athens Division of Vocational Education, 1974. (ED 115 568)

Mills, G. C. Nurses discuss dying - A simulation experience. Journal of Continuing Education in Nursing. 8(September-October 1977), 35-40.

Owens, M. Pre-postsecondary curriculum. 1973. (ED 121 948)

Pellegrino, E. The allied health professions: The problems and potentials of maturity. Journal of Allied Health. 6(Summer 1977), 25-33.

Tuckman, B. W. Conducting educational research. New York: Harcourt Brace Jovanovich, Inc., 1972.

Wasmuth, N. The value of experiential learning in long-term care education. Gerontologist. 15(December 1975), 548-553. (ED 129 076)

Wisconsin Department of Education. A reassessment of Wisconsin's HOE, 1972, 108-111. (ED 069 860)

Young, J. Former servicemen of the army medical department: A profile and assessment of an untapped resource of allied health manpower. Health Care Research Series. Number 14, Iowa City: University of Iowa, 1969. (ED 047 152)