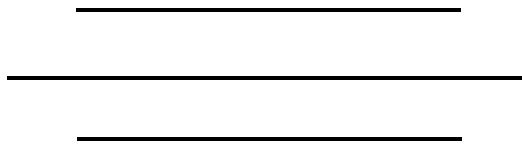


Journal of Health Occupations Education



Volume 1, Number 1

Spring 1986

Journal of Health Occupations Education

Editor: Norma J. Walters, R.N., Ph.D., Assistant Professor, Coordinator of Health Occupations Education, Auburn University, Auburn, Alabama

Associate Editor: James Noel Wilmoth, Ph.D., Associate Professor, Auburn University, Auburn, Alabama

Managing Editor: Beverly Richards, R.N., Ed.D., Assistant Professor, The University of Iowa, Iowa City, Iowa

Editorial Board

Shirley Ann Baker, M.T., Ph.D.
Health Occupations Coordinator
Southern Illinois University
Marion, Illinois

Joyce Borndahl, R.N., M.S.
Instructor, ORT
Moraine Park Technical Institute
Fond du Lac, Wisconsin

Beverly Cochran, R.N., M.Ed.
Instructor, Practical Nursing
Troup County AVTS
LaGrange, Georgia

Lauretta Cole, R.N., Ed.D.
Supervisor, HOE
West Virginia Department of Education
Charleston, West Virginia

Karen Gable, D.H., Ed.D.
Coordinator, HOE
Indiana University
Indianapolis, Indiana

Helen Gabriel, E.D.A., M.A.
Training and Management Consultant
Colorado State University
Fort Collins, Colorado

Paul Hoeksema, M.R., Ph.D.
Professor of Allied Health Education
Ferris State College
Big Rapids, Michigan

Larry Hudson, R.T. Ph.D.
Assistant Professor
University of Central Florida
Orlando, Florida

Katherine Junge, R.N., Ph.D.
HOE Program Specialist
U.S. Department of Education
Washington, District of Columbia

Frances K. Lowe, R.N., B.S.
Instructor, HOE
Fayette County Area Vocational Center
Fayette, Alabama

Etta McCulloch, R.N., Ph.D.
Health & Public Service Education
Florida Department of Education
Tallahassee, Florida

Ruth Ellen Ostler, Ed.D.
consultant
115-A Wellington Avenue
Albany, New York

Mary Lou Park, R.N., Ed.D.
Assistant Professor
State University of New York
Oswego, New York

Mildred Pittman, R.N., Ed.D.
Consultant
1423 Amherst
Denton, Texas

Trudy Rosenthal, R.N., Ed.D.
Teacher Educator, HOE
Virginia Commonwealth University
Richmond, Virginia

Chet Rzonca, Ed.D.
Director, HOE
University of Iowa
Iowa City, Iowa

Norma J. Schira, R.N., Ed.D.
Associate Professor
Western Kentucky University
Bowling Green, Kentucky

Mary Lou Shea, R.N., Ph.D.
Dean, Health Personnel Semites
Triton Community College
River Grove, Illinois

Lorraine Summers, R.N., M.S.
Consultant, HOE
Illinois State Board of Education
Springfield, Illinois

D'Ann Wilson, M.A.
Instructor, HOE
Parker High School
Birmingham, Alabama

Dorothy M. Wilmer, R.N., M.S.
Doctoral Candidate
University of Idaho
Boise, Idaho

Articles

Relationship of the USDE Health Occupations Program Specialist

to Health Occupations Programs Throughout the Nation1
Catherine **Bickle** Junge

Association of Health Occupations Teacher Educators8
Lou J. Ebrite

The National Association for State Administrators of Health

Occupations Education.11
Beverly Campbell

Attitudes of Experienced Health Occupations Teachers

Toward Disabled Persons15
Norma J. Walters, S. Tracy **Trussell**, James Noel **Wilmoth**, and
Fred T. Walters

A New Health Occupations of the Horizon: Respiratory

Exercise Specialist.28
Karen R. Butts

DRG'S: Effects on Clinical Experiences of Respiratory

Therapy Programs36
Beverly Richards

Book Reviews

How to Read an EKG.....45
Norma J. Walters

Essential **Competencies** for Patient Care.....46
V. Jane **Muhl**

General Information

Editor's Note

Welcome to your new journal.

At last, a long awaited dream--The Journal of **Health** Occupations Education, an official publication of the Health Occupations Education Division of the American Vocational Association, has become a reality. As many of you are aware, the Journal is a result **of** the efforts **of** many individuals for a number of years.

The Journal was developed to facilitate communication among members **of** the profession across the nation on current research, method, and findings in the field, on current problem trends and issues in health **care**, and on new books which have an impact on health occupations education. Contributed manuscripts are considered for publication in the categories of research, and non-research informative articles. In addition, book reviews may be submitted which are of general or specific interest to **the** readers of the Journal. The manuscripts and book reviews will be reviewed confidentially by the editorial board.

Included in this first issue of the Journal is information on the relationship **of** the United States Department of Education, Health Occupations Program Specialist to health occupations education programs throughout the nation; the Association of **Health** Occupations Teacher Educators, and the National Association of State Administrators of Health Occupations Education. These articles will assist the readers to have a better understanding of different aspects of health occupations education. Researchers **will** find data-based materials. In addition, information concerning a new health career on the horizon and book reviews of general and specific interest are included.

The next issue will include information on the HOE division and the National Association **of** Health Occupations Teachers. The format of the Journal is designed to encourage the publication of a variety of material. During **the** coming months, some of you may have comments, criticisms, and suggestions for improving our Journal, if so, we welcome your ideas. Your continuing participation is essential for the future success **of** the Journal. We need authors from **all** disciplines in health care and work sites served by the Journal. We need quality manuscripts in both categories. **We** need current book reviews to keep health occupations education personnel abreast **of** new content and/or techniques and procedures which will assist them in being aware of and making decisions in selecting texts. Most importantly, we need the support of an active readership for our Journal.

A few **moments** of your time to offer a suggestion or idea could make a difference in improvement of the Journal. Also, we invite you to take the plunge and begin writing. We cannot promise that every suggestion will be implemented, that every complaint will be satisfied completely, or that every manuscript **will** be published, but we can guarantee that the editorial staff will respond to you in good faith.

One day we envision our readers to **say**--"I look forward for my Journal to arrive; it is **the** major link to my profession."

Norma J. Walters
Editor

RELATIONSHIP OF THE **USDE** HEALTH OCCUPATIONS PROGRAM SPECIALIST
TO HEALTH OCCUPATIONS PROGRAMS THROUGHOUT THE NATION

Catherine **Bickle Junge**¹

Abstract: Serving as an information conduit between health care professional **groups** and associations and state health occupations educators is the primary focus of the Health Occupations Education Specialist in the U.S. Department of Education. The job description lists, among others, three assignments: provide national leadership in vocational health occupations education; identify and work with health care industry groups, employers, and labor representatives; and, provide leadership to **Health** Occupations Students of America. Activities related to providing leadership to state health occupations education representatives are carried out in four areas: personal contact with health occupations educators, a program memorandum, a series of telephone conference calls, and two national conferences. Among the health care industry groups identified are those found within federal government departments and agencies, members of health care professional

¹Catherine **Bickle Junge**, R.N., Ph.D. is the Health Occupations Education Program Specialist in the U.S. Department of Education.

associations, and representatives of industries supplying health care technological devices and materials. Providing leadership to **Health** Occupations Students of America is carried out **by** serving on the Board of Directors, maintaining contact with the National Office, and participating in activities of the National Coordinating Council of Vocational Student Organizations. The Program Specialist disseminates information gathered at the national level to state health occupations educators and collects information from state personnel to be shared with contact persons operating in the national arena.

President Ronald Reagan generally has been described as the "Great Communicator" . This description might be used as well to characterize the role of occupational program specialists in **the** U.S. Department of Education as they have served during the first six years of President Reagan's **term of** office. Occupational program specialists are designated for Agriculture, Business, Health Occupations, Home Economics, Industrial Arts, Marketing, and Trade and Industrial Education. The U.S. Department of Education's (1986) position description for occupational program specialists includes the following guidelines:

These persons should provide national leadership and advisory services to the States in specialized vocational education areas. . identify and work with business and industry groups, employers and labor with the view to their greater involvement in the education process. . provide leadership and direction to the appropriate **vocational** student organization (**p.1**).

This article will outline briefly a few of the activities developed under these guidelines, as they apply to the health occupations education specialist. These activities are grouped in three categories: those

related to contacts with health occupations education (HOE) state supervisors, teacher educators, administrators, and instructors; those related to contacting representatives of the health care system; and those activities related to Health Occupations Students of America (HOSA) members, advisors, and the national organization staff.

Providing Leadership and Advisory Services to the States

Activities related to providing national leadership and advisory services to the states have been carried out chiefly in four areas: personal contact with health occupations educators, an HOE program memorandum, a series of telephone calls and two national HOE conferences. Since travel funds are limited, the number of personal contacts has been relatively small. Many personal contacts have been made through the health occupations groups affiliated with the American Vocational Association (AVA): the HOE Division, the Association of Health Occupations Teacher Educators (AHOTE), the National Association of Health Occupations Teachers (NAHOT), and the National Association of State Administrators of Health Occupations Education (NASAHOE). Primarily, leadership has been provided through other activities.

The program memorandum, HOE Lines, is mailed to HOE state supervisors and teacher educators. They are encouraged to duplicate the information and share it with local health occupations instructors. A sampling of memorandum content reveals: news of changes in state supervisors and teacher educators; news from health professional associations; editorials, e.g. "Practical Nursing;" information on new treatments of importance to health care educators, e.g. "Oral Dehydration Therapy."

Telephone conferences structured according to assistance provided by Robert Miller (Trade and Industrial Specialist active for four years with

telephone methodology) have served as a method of information exchange on a national basis with state supervisors. The calls are structured so that the supervisors do most of the talking. Remarks by the HOE Specialist are limited to a few opening statements and a question or two; the remainder of the time is spent listening to reports from state supervisors. Conferees receive a prior agenda and the discussion is limited to one hour. During the hour, participants have an opportunity to suggest agenda topics for future conferences. A summary of each previous regional **call** is sent **to all** participants before the next series of **calls** begin. A general summary **of** each series of calls is included in a subsequent program memorandum.

Two national conferences were planned for 1986: a research conference and a curriculum conference. The National HOE Research Conference, co-sponsored by Auburn University, the University of Georgia, and Florida International University, was held April 11-13, 1986 at Auburn University, Alabama. Dr. Norma Walters was local conference coordinator. The National Curriculum Conference, co-sponsored by The University of Iowa, is scheduled for October 7-10, 1986 in Des Moines, Iowa. Ms. Joyce **Brandt is** local coordinator for this conference. Both conferences were endorsed by HOE organizations affiliated with AVA: the HOE Division, AHOTE, NAHOT, and **NASAHOE**.

Topics for the curriculum conference include: (a) changes in health care delivery due to advancing technology, (b) developing changes in the philosophy of health care and the modes of delivery for health care, and (c) impact on health occupations education program curricula with changes in health care. These topics are planned to alert health occupations educators to current issues in **health** care and health occupations education. Participants will have an opportunity to discuss the curricular impact of identified issues,

Contacts with Health Care Representatives

It is the responsibility of the HOE Program Specialist to **communicate** with health care representatives either personally or through an exchange of newsletters and memoranda. According to the U.S. Department of Labor, the health industry employs over seven million persons. These persons are represented by health care groups and organizations in the Washington, D.C. area such as those found within federal government departments and agencies, members of health care professional associations, and representatives of industries supplying health care technological devices and materials.

Among the federal departments concerned with education of technical health care providers are several divisions of the U.S. Department of Health and Human Services (**DHHS**): the Divisions of Nursing and Associated and Dental Health; the Office of Disease Prevention and Health Promotion; the Health Care Finance Administration; and the National Institutes of Health. Other federal departments and agencies concerned with education of technical health care providers are the Departments of Labor, Defense, and Transportation; the Veteran's Administration; and the National Council on the Aging. Other groups concerned with health care provider education include (a) associations of health professionals, such as the American Medical Association; and (b) associations of health industry suppliers and manufacturers, such as **the** Health Industry Manufacturers Association.

Since many of these groups sponsor seminars and conferences in the Washington, D.C. area, **it** is possible to become involved with several health professional associations and information exchange has been arranged among health professions groups. Also, information briefings given by members of Congress may be attended. By and large, health professionals appear to be

unaware of, or to **ignore**, contributions of health care providers at technical and vocational levels. Members of Congress, also, tend to deal only with educational programs for the upper level of health professionals. The prevailing theory appears to be that funds and services will "trickle down" **to** educational programs for technical health care providers. **It** is the responsibility of HOE educators at technical and vocational levels to disseminate information concerning local programs.

As advancing technology becomes increasingly incorporated **into the** health care system, more and more manufacturers have become involved in health care. Many business and industry groups share instructional materials about their products with health occupations educators. A future goal for the HOE Specialist is to compile a list of these business and industry groups and the information they have available.

Providing Leadership to Health Occupations Students of America

Providing leadership and direction to HOSA is carried out principally through three activities: serving on the HOSA, Inc. Board of Directors, maintaining contact with **the** HOSA National Office, and participating in activities of the National Coordinating Council of Vocational Student Organizations (**NCCVSO**). The HOSA, Inc. Board of Directors meets twice a year, prior to and during the HOSA National Conference and prior to the AVA Convention. Between these two meetings, committee assignments are carried out by mail and by telephone.

The HOE Program Specialist and the HOSA **National** Office share information on a number **of** topics. Samples of information shared include HOE program enrollments, lists of contact persons in the health care industry, and names of health care professional associations.

The **NCCVSO** meets five to six times each year. Meetings are held in the Washington, D.C. headquarters building of the member organizations: Future Business Leaders of America, Distributive Education Clubs of America, American Industrial Arts Student Association, Future Farmers of America, Future Homemakers of America, and Vocational Industrial Clubs of America. Meetings hosted by Office Education Association or HOSA are held in the facilities of one of the groups listed above. **NCCVSO** members include executive directors of the various student organizations, the U.S. Department of Education occupational program specialists, and representatives of other vocational professional organizations, e.g. AVA, National Council for Vocational Education, and National Association of State Directors of Vocational Education. Agendas include issues of mutual concern, cooperative efforts between **the** student organizations, and vocational education in general.

Summary

This article has described briefly **the** activities of the **Health** Occupations Education Program Specialist in **the** U.S. Department of Education. Activities are associated with providing leadership and advisory services to states in health occupations education, identifying and working with health care business and industry groups and health professional associations, and providing leadership and direction to **HOSA**. The HOE Program Specialist serves as a facilitator for exchange of information collected at the national level and disseminated to the states. News of state and local HOE activities is shared with individuals and groups operating in the national arena.

References

U.S. Department of Education. (1986). Position description for an occupational specialist. Washington D.C.: Office of Personnel Management.

ASSOCIATION OF HEALTH OCCUPATIONS
TEACHER EDUCATORS

Lou J. Ebrite¹

Abstract: The Association of Health Occupations Teacher Educators is a membership organization with the Health Occupations Education Division of the American Vocational Association. The business of the association is conducted by an Executive Committee consisting of six members including the president, president-elect, secretary, treasurer, and two **members-at-large**. The general purposes of the association include facilitation of communication among educators in **health** occupations teacher education programs, identification and clarification of needs of health occupations teachers, and identification and dissemination of health occupations research information.

The Association of Health Occupations Teacher Educators (**AHOTE**) is a membership organization within the Health Occupations Education Division of the American Vocational Association established December, 1976. Any member of

¹Lou J. Ebrite, Ph.D., is President of AHOTE and Assistant Professor of Health Occupations Teacher Education at Central State University, Oklahoma.

the American Vocational Association whose primary employment is health occupations teacher education or who is a graduate student preparing to be a health occupations teacher educator qualifies for membership. The annual meeting is held during the American Vocational Association Convention in December.

Executive and Standing Committees

A six member Executive Committee consisting of the president, president-elect, secretary, treasurer, and two members-at-large, elected from geographic regions of the American Vocational Association not represented by other officers, conduct the business of the association. Standing committees include awards, membership, communications, public policy, and program committees. Members of AHOTE serve as liaison members to the standing committees of the Health Occupations Education Division.

Purposes of AHOTE

The general purposes of **AHOTE** are **to**:

1. facilitate communications among individuals and institutions involved with teacher education programs,
2. identify and clarify professional development needs of health occupations teachers,
3. investigate and disseminate innovative strategies for the health occupations teacher education delivery systems,
4. plan and implement professional development of health occupations teacher educators,
5. facilitate sharing of teacher education curriculum materials,
6. identify needed health occupations related research and encourage

dissemination findings which have relevant implications for health occupations teacher education,

7. encourage the preparation of health occupations teacher educators in order to meet better the needs of health occupations teachers,

8. cooperate and communicate with other organizations engaged in the preparation of health personnel,

9. identify national issues relating to health occupations teacher education personnel and programs, and

10. influence decisions related to health occupations teacher education programs.

Tenth Anniversary

Activities to commemorate the tenth anniversary of **AHOTE** include a **reception** which will be held during the national convention of the American Vocational Association **in** Dallas, Texas in December, 1986. Dr. **Paul Hoeksema**, President of **AHOTE** for 1986-87, and Dr. Mildred **Pittman** are serving as coordinators for the celebration.

THE NATIONAL ASSOCIATION FOR STATE ADMINISTRATORS
OF HEALTH OCCUPATIONS EDUCATION

Beverly Campbell¹

Abstract: The National Association for State Administrators of Health Occupations Education is an organization within the Health Occupations Education Division of the American Vocational Association. The organization is governed by the Executive Committee elected by membership. The purposes of the association are to (a) facilitate communications, (b) seek solutions after reviewing problems and needs and set short- and long-range goals, and (c) encourage cooperation among state personnel directly responsible for health occupations education programs.

The National Association for State Administrators of Health Occupations Education (NASAHOE) was established to meet the needs of persons with the assignment of administering health occupations education on a statewide level. A statewide position of this kind often results in the absence of persons in local positions to share concerns, successes, issues, and discussions at local

¹Beverly Campbell is President of NASAHOE and Consultant, Health Careers, California State Department of Education.

levels . Therefore, NASAHOE was established to help meet this common need.

NASAHOE

NASAHOE is a membership organization within the Health Occupations Education Division of the American Vocational Association (AVA), established December 7, 1975. NASAHOE provides a formal means of communication among and between state administrative personnel charged with direct responsibility of health occupations education in the respective states, and aids the states and the nation in continuing to provide high quality educational opportunities to those desiring preparation in health care training programs.

Membership of NASAHOE

NASAHOE members may be any member of the American Vocational Association and the Health Occupations Education Division, whose primary employment is **state level management/supervision** of health occupations education programs. These individuals are designated by each state.

Purposes of NASAHOE

The purposes of NASAHOE are to:

1. maintain high professional standards among its membership;
2. provide a means for improved communications for sharing ideas, concerns, and problems among state administrators of health occupations education;
3. serve as a medium for seeking solutions to problems which affect health occupations education among the states;
4. encourage cooperative working relationships between health occupations education and other agencies, organizations, and institutions; and
5. design short- and long-range health occupations education goals after reviewing international, national, state, and local problems and needs.

Governing of NASAHOE

The governing body of NASAHOE is the Executive Committee of six officers composed of a member representative from each of the five AVA regions and a president elected by the membership on a rotating schedule. Each serves a three year term. A vice-president, secretary, and treasurer are elected from and by the Executive Committee.

Meetings of NASAHOE

An annual **NASAHOE** meeting is scheduled each December in conjunction with the annual convention of AVA with locations rotated among states. One other NASAHOE meeting **is** scheduled between AVA conventions, often **in** conjunction with other special national health occupations education activities.

Concerns of **NASAHOE**

NASAHOE members share and discuss concerns related to health occupations education **by:**

1. participation at annual and special business meetings;
2. membership on standing committees such as
 - MEMBERSHIP REVIEW - screen and approve membership applications.
 - COMMUNICATIONS - produce periodic newsletter and other needed publications .
 - PUBLIC POLICY - keep abreast of proposed action, and keep members informed about issues and developments pertaining to legislation, programming, and other matters affecting health policy and planning, and **health** occupations education.
 - PROGRAM - plan and implement programs for annual and other regularly **called** Association meetings;
3. Membership on special committees established as need arises; and

4. contributions to NASAHOE NEWS.

Means of Communication

Communication among **NASAHOE** members is provided through NASAHOE NEWS, an official biannual publication of the Association in **March** and October. Other means of communication include special issues of the newsletter if necessary, and publications, reports, and materials to members as appropriate.

ATTITUDES OF EXPERIENCED HEALTH OCCUPATIONS
TEACHERS TOWARD DISABLED PERSONS

Norma J. Walters¹

S. Tracy Trussell

James Noel Wilmoth

Fred T. Walters

Abstract: The purpose of the research was to study the effects of different instructional strategies and selected demographic variables on experienced health occupations teachers* attitudes toward disabled persons using **three** groups: independent study, lecture, and **film**, in a pre/post experimental design. MANOVA revealed no significant group effects for instructional strategies. A sequential partitioning of the sum of squares in **univariate** analyses revealed differences in years **of** occupational

¹Norma J. Walters, R.N., Ph.D., is Assistant Professor and Coordinator of Health Occupations at Auburn University; S. Tracy **Trussell**, Ph.D., is Assistant Professor, Vocational and Adult Education, University of Georgia; James Noel **Wilmoth**, Ph.D., is Associate Professor, Foundations of Education, Auburn University; and Fred T. Walters is Adjunct Professor, Brevard Community **College** and Instructor **with Brevard** County, Florida School Board.

experience, number of courses studied, years of teaching experience, and highest degree earned. Special **coursework** to teach the handicapped was found to contribute **to** a positive attitude toward disabled students. This finding suggests that states should require special preparation **for all** teachers.

Public Law 94-142 calls for handicapped children to be educated whenever appropriate with non-handicapped children. This policy depends **on** local educators, administrators, and the child's parents to make the determination **of** appropriate placement. The education of administrators and teachers must prepare them to participate meaningfully in this process.

Gearhart and **Weisha** (1976) attest to the need **for** improvement of inservice vocational development in the area **of** serving handicapped youth. To date, most states have provided special inservice, workshops, or other means to provide **training** for teachers in this problem area. In 1983, **Lakin** and **Reynolds** reported that approximately 70% of **all** children identified as handicapped spend some portion of their school day in regular classrooms. However, insufficient studies have been conducted to determine teacher attitudes toward **the** handicapped or to evaluate **the** best means to provide inservice education about the handicapped in the regular school setting.

Given proper information and training, teachers may develop a more positive attitude toward **the** handicapped student. Furthermore, **preservice** teachers' attitudes **toward** handicapped students may be improved by exposing the teachers while **they** are in training to **situations** involving disabled students.

Bruwelheide (1979) wrote: "The greatest barriers may be those which are not immediately seen, those of administrator and teacher attitude, anxiety,

and non-understanding of the handicapped individual" (p. 5). Traditionally, health care professionals have been prepared for engaging in treatment of medical needs of clientele groups that **may** have included handicapped persons. This study focused on health care professionals engaged in providing education and training to handicapped students preparing for entry into health careers. In particular, this study was concerned with attitude toward handicapped students.

Since public education was opened only recently for health occupations courses and since the teachers of these courses may not be **well** prepared to serve handicapped students **who** have chosen these programs, a study of attitudes may be helpful for understanding classroom environments **in** health occupations courses available to handicapped students. Should those environments be less **than** desirable, such a study might also suggest areas for additional professional preparation for health occupations teachers. Moreover, among other studies, the International Association for Evaluation of Achievement in Education study of classroom environments has demonstrated that the teacher is a very important contributor to variance in student achievement (Regan and Anderson, 1984) .

Purpose of Study

The primary purpose was **to** apply a popular measure of attitude toward handicapped persons to experienced secondary health occupations teachers and **to** determine whether those attitudes were **malleable** under different limited instructional strategies. The secondary purpose was to determine what relationships existed between selected demographic variables and observed differences **in** teacher attitude toward handicapped persons.

Methodology

Secondary school health occupations teachers employed in vocationally reimbursed programs as instructors in allied health cluster curriculum (multiple-competency) programs were participants in this study. These experienced health occupations teachers, with educational backgrounds in medical technology, pharmacy, respiratory therapy, dental assisting, and registered nursing, were randomly assigned to three groups. The groups were randomly assigned treatment in a one-hour session which consisted of self-paced independent study (n = 15), lecture with discussion (n = 14) and film (n = 15), all with identical conceptual content dealing with problems and needs of physically disabled persons.

Conceptual content for the three sessions was controlled by the film, The Invisible Barrier (Disability Research Information Center) which was used unedited. A self-paced instructional module for independent study was constructed from the verbal and visual conceptual content of the film. A narrative transcription of the film for traditional lecture was developed with supplemental verbal descriptions of those concepts visually presented.

Three weeks prior to an annual summer professional development workshop for all high school health occupations teachers, pretests were mailed to the teachers with a request for their participation. Sixty-two percent of the teachers volunteered to be included as a part of their three-day workshop. This was the only session addressing the handicapped student population.

The three groups were treated in regular classrooms at the workshop site. The three treatments occurred simultaneously under supervision of three professional educators. Educators in the film and independent study groups assured that participants attended to the task. The educator in the lecture

group presented the lecture. There was a prior meeting of the three educators who facilitated the treatments to discuss procedures that would ensure effective control **for** the three presentations to be as identical as possible.

Posttest data collection was completed immediately following the one-hour treatment session. After the data were collected, the purpose of the study was explained to all participants.

In order to guide the study, four null hypotheses were generated and tested:

Ho ₁ The scores of health occupations teachers will not differ significantly from neutral (item means equal to 3 on a five-point Likert scale) on the three scales of the Attitudes Toward Disabled Persons (ATDP) instrument.

Ho ₂ The **premeasure/postmeasure** scores on the three scales will not differ significantly.

Ho ₃ There will **not** be a significant difference between the three methods of instructional strategies (independent study, lecture, and **film**) **in** causing modification of health occupations teachers' attitudes toward the disabled as measured by the scales of the ATDP instrument.

Ho ₄ The ATDP scores among health occupations teachers **will** not differ statistically for selected demographic variables.

Instrumentation

A validated attitude assessment, "Attitudes Toward Disabled Persons" (ATDP) was selected for the study (Yuker, Block and Campbell, 1960). Content validity has been established by comparisons with other studies (Trussell, N. J. Walters, Davis, Avery, F.T. Walters, and Williams, 1984). The original instrument contained 30 items in **two** sub-scales. Five items relating to

vocational education were added to the ATDP instrument by Iverson and Davis (1981) in order to clarify views of the teachers toward specific educational situations. The revised 35-item ATDP instrument has three sub-scales. The Personality Characteristics Sub-scale has 19 items specifically referring to similarities or differences in personality characteristics of disabled persons. Sub-scale scores of 57 were considered neutral. The Special Treatment Sub-scale has 11 items (thus neutral would be a score of 33) dealing with the special treatment of disabled persons. The Disabled in School Sub-scale consists of five items that refer to special treatment in educational situations and would have a neutral score value of 15. The ATDP instrument used a 1-5 Likert scale, with 1 being strongly disagree and 5 being strongly agree. The sense of scaling for some of the Likert items was reversed as recommended by the ATDP authors before those items were accumulated into sub-scale scores for multivariate analyses. Missing data from individual response categories were eliminated in the data analysis by listwise deletion in the GLM procedure of SAS. Listwise deletion resulted in the loss of seven cases for a final n of 81. Reliabilities of the ATDP instrument ranged from .93 for all 35 items to .78 for the five-item Disabled in School Sub-scale using Cronbach's Coefficient Alpha.

Results and Discussion

MANOVA procedures for Personality Characteristic, Special Treatment, and Disabled in School Sub-scales by Type of Score (observed vs. chance or neutral) indicated a difference in location for the two types. On the premeasure, Wilk's Lambda was .44 ($p < .05$) and on the postmeasure Wilk's Lambda was .45 ($p < .05$). The univariate analysis revealed a significant F value for each of the three sub-scales. Therefore, null hypothesis one was

rejected.

Table 1 presents results of MANOVA on the three sub-scales simultaneously. It should be observed that no source is significant at the .05 level, Hypotheses 2, 3, and 4 therefore were not rejected for the multiple dependent variable model.

Table 1

MANOVA for Personality, Special Treatment and Disabled in School Subscales

Source	Wilk's Lambda	F _a	Numerator df	Denominator df	P
Pretest/Posttest	.96	.24	3	18	.87
Group Teaching Strategy	.74	.97	6	36	.46
Handicapped Family Member	.99	.05	3	18	.98
Years of Occupational Experience	.83	.40	9	43	.93
Special Coursework	.85	1.03	3	18	.40
Number of Courses (special coursework)	.61	.82	12	47	.63
Years of Teaching Experience	.86	.31	9	43	.97
Experience Teaching Handicapped	.98	.13	3	18	.94
Highest Degree	.81	.45	9	43	.90
Pretest/Posttest by Group	.84	.56	6	36	.76

Table 2

Univariate Analyses of Scores on ATOP by Personality Characteristics, Special Treatment, and Disabled in School

Sub-scales

source	df	Personality Characteristics				Special Treatment				Disabled in School			
		SS	MS	F	P	SS	MS	F	P	SS	MS	F	P
Model	60	1498.13	24.92	2.73	.01*	413.79	6.90	1.87	0.06	729.12	12.15	4.82	0.00*
Error	20	182.30				73.77	3.68			50.43	2.52		
Total	80	1677.43				487.56				779.55			

*Significant at alpha = .05 level

Source	df	Personality Characteristics			Special Treatment				Disabled in School				
		Type I	SS	F	P	Type I	SS	F	P	Type I	SS	F	P
Pretest/Posttest	1		0.12	0.01	0.90		0.05	0.01	0.90		11.56	4.88	0.04*
Group Teaching Strategy	2		12.40	0.68	0.51		22.83	3.10	0.06		0.44	0.09	0.91
Handicapped Family Member	1		1.45	0.16	0.69		3.05	0.83	0.37		8.78	3.48	0.07
Years of Occupational Experience	3		107.01	3.91	0.02*		38.22	3.45	0.03*		84.10	11.12	0.00*
Special Coursework	1		1.87	0.21	0.65		3.50	0.95	0.34		34.80	13.80	0.00*
Number of Courses (special)	8		207.86	2.85	0.02*		69.70	2.36	0.05		205.12	10.17	0.00*
Years of Teaching Experience	3		90.77	3.32	0.04*		25.49	2.30	0.10		2.08	0.28	0.84
Experience Teaching Handicapped	1		0.02	0.00	0.96		3.01	0.82	0.37		0.61	0.24	0.62
Highest Degree	6		158.25	2.89	0.03*		31.40	1.42	0.25		107.08	7.08	0.00*
Pretest/Posttest by Group	2		9.86		0.59		19.87	2.69	0.09		2.14	0.42	0.65
Number (group)	32		905.76	3.11	0.00		196.61	1.67	0.11		272.37	3.38	0.00

*Significant at alpha = 0.05 level

R-Square 0.891

R-square .849

R-Square 0.935

However, **univariate** analyses with general linear model procedures employing selected demographic variables in addition to **Pre/Post** Type and Group indicated that **the models** overall were satisfactory, accounting for between about .85 (for Special Treatment) and .94 (for Disabled in School) of **observed** variabilities (Table 2). However, because of **multicollinearity** in the **data**, the completely martialled variables uniquely did not account for significant proportions of variability. Again, the second, third, and fourth null hypotheses were not rejected for the single dependent variable models.

The procedure of choice for responding to the **multicollinearity** problem with these data was to assign the variability sequentially. **Pre/Post** Type, and Group, were entered first and second because of their potential contributions to the stated purposes of this study. It was reasoned that the presence of a handicapped family member might enhance **favorable** attitudes **toward** the handicapped. This experience would have preceded **all occupational** and educational experiences; thus, "Handicapped **Family Member**" was entered third.

For health occupations teachers the **usual** mode for entry into the professions **is** through completion of a **health** care training program. Subsequent to this **the** prospective teacher would either enter the teaching profession directly or attain varying levels of educational proficiency, then enter the teaching profession. Therefore, "Years of Occupational Experience" was entered **fourth**. "Courses" (had or did not have special courses for teaching **the** handicapped) and "Number of Courses" (special courses) were then entered **fifth** and sixth into the model.

Teaching **experiential** variables were entered seventh following the special **coursework** because of **the** requirement for **coursework** in the teacher certification process. The possibility of having taught a handicapped student

would be more likely **with** increasing number of years of teaching experience. Finally, "Highest Degree Earned" was added since it is an important variable for determining compensation and status for practicing teachers.

The sequential **univariate** analysis shown in Table 2 indicated **that** years of occupational experience, number of special courses taken to teach handicapped students, years **of** teaching experience, and highest degree earned contributed significantly to the explanation of variance on the Personality Characteristic Sub-scale (Model $F = 2.73$, $p < .05$). On the Disabled in **School** Sub-scale the pretest/posttest effect, years of occupational experience, special **coursework** taken, number of special courses taken, and highest degree earned explained a significant amount of the variance (Model $F = 4.82$, $p < .05$). The model for the univariate analysis on the Special Treatment Sub-scale was **not** significant (Model $F = 1.87$, $p < .06$). However, years of occupational experience was significant ($F = 3.45$, $p < .03$).

A breakdown of means revealed that the **posttest** scores were higher ($m = 19.93$) than the pretest scores ($m = 18.07$) on the Disabled in **School** Sub-scale. **Scheffé** post hoc testing revealed that participants with one to four years of occupational experience responded significantly higher ($m = 21.60$) than teachers with no occupational experience ($m = 15.50$), with five to ten years occupational experience ($m = 17.65$), and with over 10 years occupational experience ($m = 17.94$) on the Disabled in School Sub-scale. In addition, teachers that had taken one special course to teach handicapped students ($m = 18.81$) responded more positively than teachers who had taken two special courses ($m = 17.86$).

On the Personality Characteristic Sub-scale, teachers with five to ten years teaching experience were significantly more positive ($m = 55.22$) than

teachers with over 10 years teaching experience ($m = 49.80$). Also , baccalaureate ($m = 55.20$) and master degree ($m = 54.18$) teachers were more positive than specialist degree teachers ($m = 45.00$). Participants who had other degrees or diplomas (such as the Associate in Science Degree and the diploma nurse program leading **to a licensure/certification** in health care) responded more positively ($m = 20.30$) than did baccalaureate degree teachers ($m = 16.40$) on the Disabled in School Sub-scale.

While overall effects of the different teaching strategies and the selected demographic variables were not significant, the post hoc analysis has provided results that help in understanding the variance of experienced health occupations teachers' attitudes toward the handicapped. Variances explained ranged between 84,9 and 93.5 percent.

Conclusions and Recommendations

The results of the study indicated that the health occupations teachers who participated responded slightly less than positive to the ATDP instrument. This finding was contrary to the findings of **Iverson** and Davis (1981) and **Trussell, et al.** (1984) using the same instrument. Therefore, further study, specifically with health occupations teachers should be conducted. A more broadly based study should be undertaken, perhaps a study involving teachers accessible through an interstate agency.

Selected demographic variables were helpful sequentially for the overall explanation of variance on the attitude of health occupations teachers toward the handicapped. Specifically, the number of years of occupational experience, special coursework taken to teach handicapped students, number of special courses taken, number of years teaching experience, and highest degree earned contributed **to** understanding of variance **on**the sub-scales of the ATDP

instrument.

The finding that the health occupations teachers were slightly less positive than expected from chance answering on the Personality Characteristic Sub-scale and the Special Treatment Sub-scale may be explained by the nature of the admission requirements to enter and succeed in health careers. Another factor, which may be considered, is the concept of mainstreaming the handicapped, which has increased the stress on all teachers in achieving successful placement of students regardless of ability. Therefore, it is recommended that health occupations students be assessed for abilities needed to enter and succeed in health occupations programs, However, the Disabled in School Sub-scale scores were on the positive side of chance which may indicate a willingness to provide for handicapped students' educational opportunities appropriate for their abilities.

Other findings revealed that special coursework taken to teach handicapped students contributed to a positive attitude toward the disabled student. Therefore, it is suggested that State Departments of Education continue to require special preparation for credentialing all teachers who teach handicapped students.

References

- Bruwelheide, K. L. (1979). Assisting the physically handicapped: An identification and development of apparatus for laboratory shops--Phase 1. Bozeman, MT: Department of Agricultural and Industrial Education, Montana State University.
- Disability Research Information Center. The invisible barrier [film]. Portland, Maine: Center for Research and Advanced Study.

- Gearhart, B. R., & Weisha, M. W. (1976). The handicapped child in the regular classroom. St. Louis, MO: C. V. Mosby.
- Iverson, M. J., & Davis, P. D. (1981). Effects of **inservice** education methods on improving the **attitudes** of vocational agriculture teachers toward physically handicapped students. Journal of Vocational Education Research, **6**(1), 1-16.
- Lakin, C. K., & Reynolds, M. C. (1983). Curriculum implications of Public Law 94-142 for teacher education. Journal of Teacher Education, **34**(2), 13-18.
- Regan, D. W. & Anderson, L. W. (1984). Rethinking research on teaching: Lessons learned from an international study. Evaluation in Education: An International Review Series, **8**(2), 83-178.
- Trussell, S. T., Walters, N. J., Davis, p. D., Avery, M.R., Walters, F.T. & Williams, H. N. (1984). Effects of utilizing a physically handicapping simulation device on attitudes of marketing and distributive education teachers toward disabled persons. Marketing and Distributive Educators Digest, **9**(2), 35-41.
- Yuker, H. E., Block, J. R., & Campbell, W. J. (1960). A scale to measure attitudes toward disabled persons. Albertson, NY: Human Resources Foundation. Study No. 5.

A NEW HEALTH OCCUPATION OF THE HORIZON:
RESPIRATORY EXERCISE SPECIALIST

Karen R. Butts¹

Abstract: The purpose of this paper is to describe perceptions of a new health occupations program on the horizon--respiratory exercise specialist. This program was developed and implemented after a culmination of 20 years experience and research in the field of physical conditioning and respiratory exercise care. The program for kindergarten through grade 12, utilizes a seven-step method of training for prevention and control of wheezing as its basic element. An evaluation of this training through the use of a survey instrument obtaining parental perceptions of the child's health progress was positive. A high percentage of responses indicated improvement in the child's health and attitude. The impetus has resulted in recommendations and anticipation of future research with the goal of developing and instituting a program to train students as respiratory exercise specialists within the framework of an allied health department of a community college.

¹Karen R. Butts, BSVE, is an instructor of respiratory exercise care for nurses at California State University, Long Beach.

A new health occupation on the horizon, respiratory exercise specialist, may be of special interest for individuals interested in caring for asthmatics, especially children. While many adults are asthmatics, it is estimated that one-third of the six million asthmatics in the **United States** are under 17 years of age (Evans, 1979) . Furthermore, the American Lung Association (1984) reports that asthma is the cause of more absences from school than any other chronic disease; with approximately eight million school days missed per year in the United States.

Asthma is serious, but usually reversible, causing an inability to breathe normally. Shortness of breath, chest tightness, coughing and wheezing characterize asthma. A narrowing of the air passages to the lungs (bronchial tubes) triggers the attack. This is caused by muscle spasm, swelling of tissue, and excessive mucus. Dust, irritants, strenuous exercise, sports, common colds, and viral infections can initiate problems for the asthma patient's airway.

Studies conducted in **1981** by the National Commission on Air Quality have shown positive trends toward the benefits of **air pollution** control (Miller,. 1982) . There is ample evidence from recent emission inventories documenting a definite correlation, ecologically and physiologically, between human health and the present environment. In legislative terms, the United States is one of the most aggressive nations against air pollution; however, minimal progress has been made due to the difficulties, complexities, and expense of controlling air pollution (Miller, 1982). As long as the pollution problem exists, there is an urgent need for the existence of respiratory exercise care, prevention, and control.

In a report **published by** the American Lung Association (1974), it was

noted that investigators have found asthma to be twice as prevalent in cities with high pollution levels. Specifically, air pollution has been found to damage the **cilia**, the bronchial muscles and airways, the **mucus** membranes, and the bronchial cells. The automotive industry and other industries responsible for sulfur oxides, carbon monoxides, and hydrocarbons, all considered **major** air pollutants, have been **cited** as causing damage to the respiratory tract. Of major concern is the increase of **photochemical** smog, the irritating haze resulting from the sun's effects on the pollutants. Prevalence of the **photochemical** smog in Southern California, particularly in and around the Los Angeles area, has necessitated new programs to help asthmatics.

Program Goals

The prime objective of a new respiratory exercise care program is to help children lead **normal** lives. The exercises, designed to meet each child's particular needs at an early age, help the child develop individual self-management of breathing. This is accomplished by teaching exercises for breathing, stretching, and relaxation which **will** ameliorate the asthma and related breathing difficulties.

The outcomes **of the** program may be many and varied. There **may** be a change in circulatory and respiratory systems as a result of the breathing exercises. A supple, strong physical body may develop as a result of nonexhausting stretching exercises. A positive self-image may emerge as a result of new awareness of physical and mental capabilities, school grades may improve, and the social behavior of the child may become more desirable. Positive changes in the asthmatic child may be related directly to the training method (Butts, 1980).

Training Method

The training method utilized in the new program combines exercises and illustrations explained by Butts (1980). This is a seven-step method intended to help asthmatics breathe better and easier, control wheezing, and place responsibility for action on self-help discipline. **At** the onset of breathing difficulties, the program teaches children a pattern to follow called "The Seven Steps to Control Wheezing."

Step 1 Medical attending--call the physician or take prescribed medication.

Step 2 Water drinking--fluids help to thin mucus so that it can be loosened and coughed up.

Step 3 Body positioning--during an asthma attack, pillows are used under the scapulas to help the child assume a supportive position. This can be done also in a prone position as on a slant board.

Step 4 Complete breathing--this is a beginner's breathing exercise using the abdominal muscles, pushing up when inhaling, relaxing when exhaling.

Step 5 Alternate breathing--this is done alternating a finger and/or thumb to close one nostril while the other is being used.

Step 6 Diaphragm lifting--this is an advanced breathing exercise used for expelling stale air and coughing up mucus.

Step 7 Positional relaxing--this can be done in the prone position or lying flat.

Lindgren, in a forward for Paige (1979), offered the following assessment:

In **the** practice **of** pediatric medicine, the asthmatic child presents a number **of** problems. The inability **to** breathe makes the child

apprehensive, thereby producing a tenseness of mind and muscle that further aggravates the condition. Breathing becomes labored with shallow rapid respiration. Breathing Exercises for Asthma is fulfilling a great service to the asthmatic child. It is reaching more children by presenting to the parents, school nurses, and teachers, an entirely new way to cope with the problems of these children. In many respects, it is similar to the Lamaze method in childbirth education which is proving so successful. In this case, the child is taught by exercise, breath control, and relaxation to maintain better posture and to breathe more effectively. All of this leads to their being able to cope with their asthmatic episodes (Paige, 1979, p. 60).

Evaluation of Training Program

Responses from parents and physicians concerning the general health of asthmatic children who have completed this training have provided positive and encouraging feedback. Butts (1983) conducted a study to assess the program at ABC Unified School District. Parental perceptions were sought through the use of a survey instrument sent to 154 homes. In response to an introductory statement, "I believe that as a result of the respiratory exercise program," 83% of the parents of students currently enrolled in the program stated that their child's breathing condition improved within a few months, and of those 19.2% improved within the first two or four weeks. Other areas examined were: understanding of the respiratory problem, confidence in ability to control wheezing, anxiety, emergency medical attention, school attendance, ability to concentrate, daily medication, performance of exercises at home, and importance of the respiratory exercise program. The results are shown in Table 1.

Table 1

Parental Perceptions of Respiratory Exercise Care Programs

Item	*Responses
1. Child' S breathing condition Improved	83%
2. Child' s understanding of the respiratory problem improved	75%
3. Child's confidence to control wheezing improved	75%
4. Child' s anxiety decreased	83%
5. Child' s emergency medical attention decreased	85%
6. Child' s school attendance improved	51%
7. Child's concentration improved	52%
8. Child' s medication decreased	56%
9. Child utilizes the training at home	75%
10. Respiratory exercise program important	95%

*n = 154.

In addition, parents' comments about the program were requested. The following are representative of the comments:

I think his breathing condition improved fantastically.

He has learned to help himself and not panic.

I have not driven him to the hospital for emergency treatment in almost a year.

Not worried because I know she can control it.

It has been quite exciting to see him get his wheezing under control, especially after exercise.

He knows how to stop a bad attack.

It's nice not getting up **at 12:00** or **1:00, 2:00,** or **3:00** a.m. to go and visit a doctor.

He has missed **only** two days **of** school (September to January).

He has not missed a day due to asthma since beginning the class (two years) .

I believe the program is wonderful. My pediatrician knew immediately that we were part of the ABC district. He also regards your program very highly. My son's attitude has really changed since coming into the class. Asthma isn't one of the big crises that occur in our family anymore. The summation of the data and comments collected in the survey indicated a highly effective adaptation of the respiratory exercise program.

Future Directions for the Respiratory Exercise Specialist Program

Further development **of** the respiratory exercise program is anticipated. Studies may be conducted to enhance the respiratory exercise specialist program utilizing children under the direction of a medical school, hospital, or large pediatric clinic having appropriate personnel and equipment to collect the statistical data. In addition, respiratory exercise care seminars for nurses may be conducted similar to those at California State University, Long Beach and **Cerritos** College in California. Development of the program in an allied health department of a community college would appear to be a legitimate and important direction for the health occupations education field.

References

American Lung Association. (1974). AirPollution primer. Long Beach, CA:
Author.

- American Lung Association. (1984). Asthma facts about your lungs (Report No. 0052) . Long Beach, CA: Author.
- Butts, K. R. (1980). Breathing exercises for asthma. Springfield, IL: C. C. Thomas.
- Butts, K. R. (1983). The effectiveness of respirator exercise care. Unpublished manuscript, California State University, Vocational Education Program, Long Beach, CA.
- Evans, H. E. (1979). What happens when a child has asthma? (Report No. 0069) . New York: American Lung Association.
- Miller, G. T., Jr. (1982). Living in the environment (3rd ed.). (pp. 431-324). Belmont, CA: Wadsworth.
- Paige, P. (1979, September/October). Treating the Asthmatic child. Respiratory Therapy, pp. 57-60.

DRG'S: EFFECTS ON CLINICAL EXPERIENCES OF
RESPIRATORY THERAPY PROGRAMS

Beverly Richards¹

Abstract: Critical incidents were collected from respiratory therapy students to determine essential behaviors for respiratory therapists and how and where those behaviors could be learned best in view of new health insurance restrictions and changes in medical practice patterns. Students were asked to select the setting(s) in which those behaviors could be mastered. Of the 145 incidents, 21 required mastery in the clinical setting only, although 84 required a combination of settings, simulation/clinical, laboratory/clinical, or all settings. The incidents were sorted by category and setting as a means of improving respiratory therapy curriculum and to insure that vital clinical experiences are accomplished within the clinical setting thus preparing graduates to be effective practitioners.

¹Beverly Richards, R.N., Ed.D., is Assistant Professor, Division of Foundations , Postsecondary and Continuing Education, College of Education, The University of Iowa.

DRG'S: Effects on Clinical

Diagnosis related groupings, DRG'S, are a type of prospective payment system in which the hospital is paid a specified rate for each case covered by Medicare. The rate, with some adjustment for regional differences and unusual cases, is based upon the admitting diagnosis and related medical and surgical procedures. According to experts in the field, the heightened emphasis on cost will result in more acutely ill patients who need a more intense level of care and a management environment that requires much greater efficiency and effectiveness. The health insurance restrictions as well as new medical practice patterns dictate that individuals obtain maximum care in doctors' offices and outpatient surgery centers, where the cost is lower, and a minimum of care in hospitals, where it is more costly.

The effects of medical practice patterns and health insurance restrictions may affect the quantity and variety of clinical experiences for programs in health occupations education. Hospitals, both large and small, are an important component of clinical experiences for these programs. With limited resources, namely patients in hospitals or acute care settings, several questions are raised:

1. What can we do for health occupation education students to fulfill the clinical components of their respective programs?
- 2, What clinical experiences **would** be vital and therefore have to be accomplished within the acute care setting?
3. What experiences could be accomplished with simulations or within the laboratory setting, thus freeing up hospitals for those clinical experiences that cannot be obtained in other ways?
4. How can we determine which experiences would be vital to graduates of health occupations education programs?

These questions became the basis for a pilot **study** of one health occupations education program, Respiratory Therapy.

Conceptual Framework

In order to determine first what are the experiences **of** the student in the clinical area, and second, where can the behaviors derived from the experiences be mastered, it was determined that the critical incident technique can be utilized effectively as a job analysis procedure. The critical incident technique evolved through the efforts of John C. Flanagan and his associates while working in the aviation psychology program of the United States Army during World War II. It was not until after the Second World War that the technique was developed formally and given its present name. After the war, Flanagan and a few associates established the American Institute for Research in Pittsburgh. It was through the work of the Institute as well as the work of advanced graduate students at the University of Pittsburgh, that the technique was adapted to a variety of new situations (Flanagan, 1954).

The critical incident technique has been used by numerous researchers in a variety of applications in business, industry, and education. In health related fields, it has been applied to student performance (**Herzberg, Inkley,** and Adams, 1960); nursing instructor effectiveness behaviors (**Barham,** 1965); nursing evaluation (Fivars and **Gosnell,** 1966); and continuing education (Smith, Smith, and Ross, 1982).

The critical incident technique is used for collecting incidents having special significance and meeting systematically defined criteria. Essentially there are five steps: (a) determine the aim **of** the activity, (b) develop plans and specifications for collecting factual incidents, (c) collect data,

(d) analyze data, and (e) interpret and report the data (Flanagan, 1954). These steps were used in a pilot study of Respiratory Therapy. Using this technique to determine experiences and settings does not violate health insurance restrictions. Thus, applications of effective medical practices to critical medical incidents in their education should promote respiratory therapy students' performance after graduation. Information from this study may contribute to a more viable restructured curriculum.

Methodology

Subjects for the pilot study included all (20) second year respiratory therapy students at one community college who volunteered to participate in the collection of incidents. The general aim was to determine the essential behaviors of respiratory therapists and how and where those behaviors could be learned best in view of the increased acuity of patient care and the expected decrease in patient census in hospitals. Subjects were asked three questions: (a) What was the situation? (b) What did you do? and (c) What was the result? In addition, the subjects were asked to state where the behavior could be learned. Specifically, they were asked

1. Could this behavior be mastered in **only** one setting? If yes, which one: simulation, laboratory, or clinical setting, or
2. Is it necessary to master this behavior in a combination of settings? If yes, which combination: simulation and laboratory, simulation and clinical, laboratory and clinical, or all settings (Simulation was defined as the application of knowledge and skills to a specific client based on a clinical judgment of the **client's** needs; laboratory was defined as a practice setting in the school or hospital without client contact). Written examples were given to the students. One example is reiterated here.

What was the situation:

A baby extubated herself and I needed to set up an oxygen hood.

What did you do:

I gathered the equipment I needed and assembled the hood with minimal assistance. It was the first time I had assembled a hood. After the hood was in place, I analyzed the hood for oxygen concentration.

What was the result:

The hood analyzed appropriately. The blood gases and clinical picture of the infant deteriorated over the next few hours and the baby was reintubated and put back on the ventilator.

Where could this behavior be mastered:

	Yes	No
A simulation setting only.		<u>X</u>
A laboratory setting only.		<u>X</u>
A clinical setting only.		<u>X</u>

Is it necessary to master this behavior in a combination of settings? If yes, check what combination you would suggest:

Simulation and laboratory settings.		<u>X</u>
Simulation and clinical settings.		<u>X</u>
Laboratory and clinical settings.	<u>X</u>	<u> </u>
All settings.		<u>X</u>

Critical incidents were collected from respiratory therapy students over a two month period from March 10 to May 10. After the incidents were collected, the incidents were sorted into six categories by a research assistant, a practicing respiratory therapist employed at a large university teaching hospital. These categories were:

DRG'S: Effects on Clinical

1. Ventilator Management - incidents related to ventilator care such as parameter changes, ventilator set-ups, circuit changes, and trouble shooting.
2. Oxygen Therapy - incidents related to oxygen delivery such as set-ups, analyzing oxygen, and trouble shooting.
3. Communication Skills - incidents related to oral and written communication and teaching.
4. Treatment Modalities - incidents related to treatments such as aerosol, delivering medications, chest physiotherapy, weaning parameters, and blood gases.
5. Equipment Maintenance - incidents related to the maintenance of equipment.
6. Other - incidents were not related to the above categories.

The incidents were entered on a computer using the PC-File III, a general purpose data base manager program. After the incidents were entered on the computer, copies of the incidents were printed without specifying the practice settings. Four practicing respiratory therapists, with 45 years of combined occupational experience, arranged the incidents according to setting (e.g. where those behaviors **could be** mastered). There was agreement with 141 (97%) of the 145 incidents according to setting between practicing respiratory therapists and respiratory therapy students. This served to validate where the behaviors could be learned best.

Results

Table 1 shows the number of critical incidents in relation to category and setting. Of the 145 recorded incidents, 40 incidents could be learned best in the laboratory setting. No incidents could be mastered from the communication skills category in **the** laboratory setting and only one incident from the

Table 1

Numbers of Critical Incidents in Relation to Category and Setting

Category	Setting					Total by Category
	Laboratory	Clinical	Laboratory/Clinical	Simulation/Clinical	All Settings	
1. Ventilator Managment	11	4	16	2	7	40
2. Oxygen Therapy	1	5	4	1	0	11
3. Communication Skills	0	2	3	4	0	9
4. Treatment Modalities	8	5	25	3	5	46
5. Equipment Maintenance	9	0	0	0	0	9
6. Other	11	5	10	0	4	30
Total by Setting	40	21	58	10	16	145

oxygen therapy category. No incidents could be mastered in the simulation setting **only**. Twenty-one incidents required the clinical setting only with no incidents listed under the equipment maintenance category. Fifty-eight incidents could be learned best in a combination of laboratory/clinical settings with no incidents listed under the equipment maintenance category.

DRG'S: Effects on Clinical

Ten incidents could be mastered in a combination of simulation/clinical settings with no incidents listed in the equipment maintenance or other categories. Sixteen incidents were listed for mastery in all settings with no incidents listed in the oxygen therapy and communication skills categories.

Summary

The data revealed that 68 percent of the incidents in ventilator management and 72 percent of the treatment modalities could be mastered in the laboratory and laboratory/clinical settings. Eighty-two percent of the incidents in oxygen therapy could be mastered in the laboratory/clinical and clinical settings. All incidents in equipment maintenance **could** be mastered in the laboratory setting whereas all communication skill incidents would require the combination of simulation, laboratory, and clinical settings.

Data from this study were shared with community college faculty responsible for the respiratory therapy program. The faculty confirmed that the incidents listed in the table were close in number and category to the planned distribution of clinical experiences which serves as a validation of the sample. Three areas for curriculum revision were suggested by the faculty:

1. The low number of communication skill incidents demonstrated the need to provide more opportunities in this category.
2. The critical incidents listed under laboratory and laboratory/clinical settings should be used as a guide for developing additional laboratory exercises.
3. Additional curriculum revision should be centered on the need for formal seminar time to be included at the end of each clinical day. Opportunities to discuss these critical incidents closer to the time of occurrence should increase the knowledge and understanding of all students.

The data provide important information for decision making in curriculum revision based on changes in medical practice patterns and health insurance restrictions. All categories except communication skills have incidents that can be mastered in the laboratory setting. More effective use of simulations may provide students with the knowledge and skills required for clinical judgments. More effective use of the laboratory and simulations can provide additional time in the clinical setting for those experiences which are vital to ensure that graduates are safe, effective practitioners.

References

- Barham, V. Z., (1965). Identifying effective behavior of the nursing instructor through critical incidents. Nursing Research, 14(1), 66-77.
- Fivars, G., & Gosnell, D. (1966). Nursing evaluation: The problem and the process. New York: Macmillan.
- Flanagan, J. C. (1954). The critical incident technique. Psychological Bulletin, 51(4), 327-359.
- Herzberg, F., Inkley, S., & Adams, W. R. (1960). Some effects on the clinical faculty of a critical incident study of the performance of students. Journal of Medical Education, 35(7), 666-675.
- Smith, I. K., Smith, J. O., & Ross, G. R. (1982). Needs assessment: An overview for health educators. Mobius, 2(2), 52-59.

Book Reviews

How to Read an EKG (3rd. cd.), Margaret G. Blowers and Roberta Smith Sims.

Medical Economics, Inc. , **Oradell**, New Jersey, 1984, 58 pp.

How to Read an EKG provides a well organized and well written overview of basic electrocardiograms (EKGs). The book will assist all health care workers to learn basic knowledge of electrocardiograms.

The text is divided into five sections: electrode application, lead placement, electrocardiographic monitoring and common problems, normal EKG, non-catastrophic and life-threatening arrhythmias and treatment. Illustrated diagrams of the electrical activity of the heart and sample EKG patterns are presented to assist the reader in differentiating between simple and potentially dangerous cardiac problems.

Faculty members and students may criticize the book for omission of objectives, summaries, questions, and references at the end of each section. In addition, skill check sheets are not included for student practice and final performance evaluation. The title of the book could be changed to **reflect** more closely the content, possibly, "The Basic EKG."

Strengths of the book include the glossary, safety factors, sample EKGs, and a table for determining heart rate. This format enables students *to* obtain some background and experience and to learn to recognize many life-threatening arrhythmias so that appropriate treatment can be initiated. **Also**, the book may be used as a flip chart placed in an EKG monitoring area for quick comparison of model rhythm strips with patients' tracings.

Norma J. Walters, R.N., Ph.D. Auburn University.

Essential Competencies for Patient Care, Mary Elizabeth Milliken and Gene Campbell. C.V. Mosby Company, St. Louis, 1985, 826 pp.

Essential Competencies for Patient Care presents a comprehensive approach in identifying the fundamental knowledge, skills, and attitudes required of the practical/vocational nurse, as an entry-level practitioner. While the knowledge base and technology of the health field continues to expand rapidly, the authors have identified and presented **competencies** appropriate for the practical/vocational nurse, where it is anticipated that the primary place of **employment will** be an acute care setting.

The text is divided into five distinct components, including an orientation to the field of nursing, basic patient care, nursing care during illness, nursing care throughout the life span, and transition from student to graduate nurse. Theoretical and **skill** content is presented sequentially from simple to complex **while** flexibility of presentation remains inherent. Suggestions are provided for a variety of assignments at the end of each chapter and in a supplemental workbook which include the application of the competencies addressed. The suggestions which address the affective domain as well as the cognitive and psychomotor aspects of learning are major strengths of these assignments.

Elements of chapters are personably written, which provide added incentives for reader use. Appropriate illustrations and pictures expand the written content and provide an eye-appealing basic text.

V. Jane Muhl, R.N., M.Ed., M.S., Iowa Department of Public Instruction.

Editorial Policy: The Journal of Health Occupations Education was developed to facilitate communication among members of the profession on current methods of research and findings in the field, on current program trends and issues in health care, and on new books which have an impact on health occupations education. Contributed manuscripts are considered for publication in the categories of research, non-research informative articles, and book reviews. Policy regarding submission of manuscripts will be non-restrictive, yet subject to internal review as well as review by a panel of peers. No payment is made to authors. The Journal does not assess page costs; but if the manuscript is accepted, the author may be asked to pay the preparation cost of complex tables, charts, and figures. The views expressed in the Journal of Health Occupations Education are those of the authors and do not necessarily represent an official position of the Health Occupations Education Division.

Subscriptions: Individuals or institutions may subscribe to the Journal at a cost of \$15 for HOE-AVA members and \$25 for nonmembers. Other countries, add \$10 per year postage. Single copies and back issues, when available, may be purchased for \$15 each. Checks should be made payable to the Journal of Health Occupations Education. Subscriptions and change of address notice should be sent to the Managing Editor six weeks in advance of effective date. Please include old and new addresses with zip codes. Undelivered issues are not the responsibility of the publisher.

Duplication: Educators are authorized to reproduce a single article from this publication without making a written request provided that (a) duplication is for an educational purpose in a non-profit institution, (b) copies are made available without charge beyond the cost of reproduction, and (c) each copy includes full citation of the source. Permission to reproduce more than one article will be granted under the same conditions to those who make a reasonable request in writing. This authorization does not apply to materials, if any, copyrighted by others. Any such materials are so identified.

Manuscript Specifications: Authors should submit one camera ready original and three copies of the research or non-research informative paper of approximately 10 pages or 2000 words including an abstract of 150 words or less. All papers should be prestige elite typed and double spaced on bond paper, with margins of one inch on all sides. Tables should be numbered, titled, cited, and inserted in the text. References should begin at the end of the text on the same page. A separate cover page should include the title of the article and name, position, institution, address and telephone number of the author(s) to allow manuscripts to be reviewed confidentially. Book reviews should be of interest to the readers. Include the title, author(s), date of publication, city, state, publisher and number of pages. The review should include a description of the purpose, an objective summary, and judgments of implications, value, and applicability of the content on one page. The Publication Manual of the American Psychological Association (APA), Third Edition, should be used for style of writing. Prospective authors are invited to contact the Editor to receive copies of manuscript and book review guidelines or to inquire about the suitability of submissions they are considering.

Beverly Richards, Managing Editor
Journal of Health Occupations Education
The University of Iowa
N487 Lindquist Center
Iowa City, Iowa 52242