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ABSTRACT

In a study undertaken to identify and classify some of the pressing problems in occupational education, a total of 1,007 occupational educators in the United States and territories were contacted for comments in spring and summer 1971. Based on a modified content analysis of 200 responses the major problem areas were identified, including: (1) creating and maintaining a favorable climate for occupational education, (2) developing planning and management systems and obtaining and allocating resources, (3) assessing the process and product of occupational education, (4) improving curriculum and instructional systems, (5) providing adequate professional development for occupational education, (6) providing assistance in career planning, and (7) translating manpower demands and individual needs into occupational education programs. The study report contains a description of the problem areas and their major components, and includes selected quotes from individual respondents. (JS/Author)

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## CENTER FOR OCCUPATIONAL EDUCATION

### MEMORANDUM FOR THE DIRECTOR

The Center for Occupational Education was established in 1955, originally under the aegis of the Office of the Secretary of the United States Department of Education, with the primary objective of providing leadership in the development of occupational education policy and the coordinated preparation of students for work. The Center has since that time been concerned with the study of fundamental problems in occupational education and the development of solutions.

The Center has been established as an independent unit within the Office of the Secretary of the United States Department of Education, with headquarters at the University of North Carolina at Chapel Hill. The Center is a non-profit organization, organized under the laws of the State of North Carolina, and is a member of the American Association of Economic Research, National Council for Educational Research and Training, and the American Association of Occupational Education. The Center for Occupational Education is established as a separate unit within the Office of the Secretary of the United States Department of Education, with headquarters at the University of North Carolina at Chapel Hill. The Center is a non-profit organization, organized under the laws of the State of North Carolina, and is a member of the American Association of Economic Research, National Council for Educational Research and Training, and the American Association of Occupational Education. The Center has been divided into four divisions, including the Division of Research and Statistics, the Division of Program Evaluation, the Division of Occupational Education, and the Division of Vocational and Technical Education. The Center is currently receiving financial support from the Office of the Secretary of the United States Department of Education.

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PROBLEM AREAS IN OCCUPATIONAL EDUCATION FOR THE 1970'S

"Problems not identified remain unsolved."

Allen B. Moore  
Sue J. King

\* \* \* \* \*

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Occasional Paper No. 12

CENTER FOR OCCUPATIONAL EDUCATION

North Carolina State University at Raleigh

1972

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## PREFACE

Quite frequently, research in education is criticized for its lack of relevance to the problems in the field. The present study was undertaken to identify and classify some of the pressing problems in occupational education, and the results of the study are being shared with program administrators and researchers in occupational education throughout the nation.

This paper was also presented at the annual meeting of the American Education Research Association in Chicago, April, 1972.

The Center wishes to extend appreciation to the practitioners, researchers, and other interested persons in occupational education for their response and dedication. These individuals have demonstrated their insight into the problems facing occupational educators in the present and the near future.

The Center and the authors gratefully acknowledge the research assistance of Mrs. Joan Weiss, making the presentation of this report possible. Appreciation is also expressed to Mayo Khon Pan for typing the manuscript and to Miss Susan Ward for its final reproduction.

John K. Coster  
Director

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## SUMMARY

A total of 1007 occupational educators in the United States and territories were contacted during the spring and summer of 1971 for their comments on the major problems in occupational education. Two hundred responses were analyzed using a modified content analysis approach. This method of analysis yielded several problem areas.

The major problem areas identified by the respondents were classified into seven broad categories, including:

1. Creating and maintaining a favorable climate for occupational education.
2. Developing planning and management systems and obtaining and allocating resources.
3. Assessing the process and product of occupational education.
4. Improving curriculum and instructional systems.
5. Providing adequate professional development for occupational education.
6. Providing assistance in career planning.
7. Translating manpower demands and individual needs into occupational education programs.

The study report contains a description of the problem areas and their major components and includes selected quotes from individual respondents.

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## INTRODUCTION

The primary aim of this report is to produce a summary of the problem areas in occupational education for the 1970's. If major problems can be identified, it should be possible to direct research efforts toward finding solutions to these problems. Even if some problems in occupational education may not be researchable, they must be identified before systematic research efforts can be undertaken.

The problem areas reported in this paper were identified by a consensus of authorities in the field, researchers, and, among others, those who have encountered practical educational problems to which research may hold the answers. The various sources of information for this report included 200 responses from state research coordinating units, occupational research units, state directors of vocational education, and occupational educators in the United States and territories.

The information obtained from the respondents was analyzed for central themes relating to occupational education. Each individual statement submitted was examined for the smallest "bit" of information about research needs. These bits of information were listed and classified under broader subcategories, i.e., management, curriculum and instruction, etc. The subcategories were then examined for major problem areas. By dissecting the research need statements into small units and enlarging these units into broad problem categories, it was possible to develop a narrative report of the mass of information.\*

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\*This procedure is a modified version of the content analysis method reported by Berelson. See Berelson, B. 1954. In Handbook of Social Psychology, Gardner Lindzey, Editor. Cambridge, Massachusetts: Addison-Wesley Publishing Company, Inc.

This report presents a synthesis of the major problem areas identified by occupational educators. The synthesis does not enumerate questions posed by these educators, but it does provide a comprehensive foundation for further investigation, study, and research.

CREATING AND MAINTAINING A FAVORABLE CLIMATE  
FOR OCCUPATIONAL EDUCATION

Problem areas listed by the occupational research units (ORU's and RCU's) were related to the image of vocational education, public perception of vocational-technical education, and the problem of identifying the facilitators and constrainers to providing vocational education for all who need it.

The areas identified by occupational educators (local and state directors of occupational education) across the United States included the attitudes of parents, teachers, and students toward occupational education; the need to change the "terminal," "also-ran" image of occupational education; the concept of the comprehensive nature of occupational education offered by community junior colleges; and status development for occupational education.

The public, and especially the parent, is reluctant to accept any program that still carries the stigma of Technical, Vocational, or Terminal. The use of the term Occupational is a step in the right direction, but I feel we must continue to re-educate the public and our own faculties to the effect that we have good, respectable, honest, and profitable life-time occupations that can be obtained at the junior college level in the two-year programs. (Florida)

How can the concept be implemented that occupational education does not have to be terminal, but rather that it prepares one for employment and at the same time provides a number of options that can be called on at a later date? (Missouri)

DEVELOPING PLANNING AND MANAGEMENT SYSTEMS  
AND OBTAINING AND ALLOCATING RESOURCES

Planning

Planning needs were related to surveys of state needs, priorities for carrying out existing programs, and resources to start new programs.

Problem areas listed by the occupational research units included promoting cooperation between planning agencies, identifying labor market/manpower needs and trends, developing a planning model, and developing research dissemination techniques.

Occupational educators indicated that planning needs are related to predicting occupational trends and occupational needs; correlating occupational education offerings with industry needs and future manpower needs; and assessing state, regional, and local needs. Also included was the advisory council function--the planning and effective utilization of "lay" and community committees. Other problem areas cited by occupational educators in relation to planning included the development and testing of planning systems, ways to improve the program planning process, ways to implement plans, and conferences on the use of manpower data for planning purposes.

Need long-range planning, and [information on] the success or lack of success experienced by those institutions which have initiated long-range planning activities. (California)

Need to develop a system of local and regionalized planning to provide a relevant process for solution to needs of occupational education. (New York)

Let's do less research and develop practical applications of the research findings that have been completed. (North Dakota)

[Need] methods for improved coordination between labor needs and program offerings. If labor market needs can be coordinated with program development, our system would be more effective and efficient. (Pennsylvania)

#### Organization and Administration

Problems mentioned in this area included the determination of efficient ways to organize and administer vocational education programs; the availability of vocational education programs in state, regional, and local areas; and guidelines for ideal institutional arrangements for facilitating vocational education programs.

The occupational research units identified needs in this area that were concerned with eliminating the duplication of efforts by educational agencies and with coordinating vocational education training efforts.

Occupational educators listed organizational and administrative topics involving improving working relations between and within the various groups in occupational education (i.e., counseling and guidance staff).

What is the most efficient administrative pattern and organization for a school district for operating area vocational and technical schools? (Minnesota)

. . . study . . . the emerging and changing occupational opportunities and trends to promote better communications between the high school counselor and student, the high school teacher and student, industry and high school counselor, and industry and the State Department of Education. (Georgia)

#### Financial Resources

Problems identified in this area included the need for financial

resources to carry on existing occupational education programs and to develop new programs.

Occupational educators indicated the need for studies of the cost-effectiveness of occupational offerings, the costs involved in duplicated occupational education efforts, and funding sources for current and future occupation education programs.

The whole area of governance of education as it pertains to occupational education needs to be examined. Control and funding appear to be complete and diffused. We need to examine . . . programs in an effort to avoid duplication and unnecessary expense. (Utah)

Sources of funds to assist the low-income person in taking advantage of training opportunities to prepare him for successful job entry. (South Carolina)

#### Physical Facilities

Two major problems identified in this area were classified as being related to the physical resources necessary to prepare persons for occupations (specific occupations not identified) and to the ways these resources should be utilized in the institutions.

The research coordinating units identified problems in the physical facilities area concerned with inventorying existing facilities and predicting the need for special facilities by curricula, and by program.

Occupational educators mentioned problem areas related to the maintenance of and means of funding transportation facilities for students living in outlying areas.

How can occupational education keep its programs, staff, facilities and equipment up to date and relevant to the changing and developing needs of the occupational area and the students to be served?  
(California)

In what ways and to what extent does a specially equipped facility contribute to the effectiveness of the instructional program?  
(Florida)

## ASSESSING THE PROCESS AND PRODUCT OF OCCUPATIONAL EDUCATION

Problems identified in this area by both researchers and educators included: criteria for and development of cost-benefit analysis techniques; work-study program effectiveness; learning experiences; program development and student participation; effects of programs on the students; student success in training for, entering into, maintaining, and advancing in an occupation; the effectiveness of work experience in occupational programs; comparative studies of occupational programs using elaborate facilities with those programs of modest facilities; procedures for and successes of individualized instruction; the effectiveness of the cluster concept in schools; minimum standards for program development in public secondary and postsecondary schools; the nature and extent of successful Office of Education programs; an analysis of existing evaluation techniques (evaluation of evaluation); the effect of vocational-technical education for various subject matter areas on different populations and minorities; and the development of program models.

We need empirical evidence that will prove beyond a shadow of a doubt that our traditional occupational education programs are superior to the so-called academic and general programs insofar as they relate to getting a job, finding a job, keeping a job, being promoted on the job, etc. (Wyoming)

[We need a] cost breakdown per student hour for specific skill level achievements. (California)

Research needs to be done in occupational education . . . in the area where occupational work experience is required as a part of the curriculum program and where it is not required. Take the graduates of both types of programs and see who meets with the most success. (Ohio)

## IMPROVING CURRICULUM AND INSTRUCTIONAL SYSTEMS

The problems identified in this category were related to developing curricula for a specific occupation by identifying the objectives of the occupation, the competencies desired, the training necessary to provide these desired competencies, and the need for advisory committee inputs into the development of curricula.

The research units identified problems in the areas of curriculum development and implementation mostly in terms of individual programs--home economics, etc.--and the modification of curricula to match the demands of employers for skills and competencies of potential employees.

Occupational educators listed topics including planning curricula, developing curricula that bridge the gap between secondary and postsecondary instruction, and identifying and developing appropriate curricula to meet the needs of the community and industry. Additional topics in this problem area include development of curriculum models, studies of curriculum systems, the determination of learning common to groups of occupations, and the development of specific subject matter curricula (e.g., consumer education, home economics, etc.).

A format for a secondary education program requiring vocational education for all students [is needed], with extended instruction for those students not planning to enroll in a four-year, degree program. (North Dakota)

There is a great deal of talk today concerning the development of attitudes toward the world of work in the elementary programs, the success of career orientation programs in the junior high schools, and the proof that secondary and postsecondary programs provide for articulation. (Wyoming)

PROVIDING ADEQUATE PROFESSIONAL DEVELOPMENT  
FOR OCCUPATIONAL EDUCATION

Topics classified in this problem area were concerned with qualifications, including research into the present competencies of vocational teachers and administrators, the types of training needed by vocational teachers, and the ways this training can be acquired. There is an urgent need for trained vocational teachers to work with minority populations--disadvantaged, handicapped, and racial groups.

The research units stressed information related to the competencies required of vocational education teachers, their abilities to deal with special problems such as the handicapped and the disadvantaged, and the effectiveness of programs to prepare teachers. These individuals also listed the study of qualifications of vocational-technical education personnel as a growing need.

Occupational educators identified a problem area in the recruitment strategies and selection methods for attracting students into occupational education programs. They also mentioned problems in the areas of strategies for inservice training opportunities for vocational-technical education personnel, and innovations among vocational-technical educators to motivate an interest in professional development. Problem areas identified in this section were also related to the previously mentioned concern about the climate of occupational education.

What are the . . . techniques for recruiting, selecting, preparing, updating and utilizing vocational instructors? (Georgia)

Examination of the present status of counselor training and background. We need both high school and college counselors more knowledgeable and interested in occupational education opportunities for students. (Utah)

Innovations in the teaching and learning processes to build in quality and efficiency and keep [vocational educators] updated by inservice training in instructional programs. (South Carolina)

## PROVIDING ASSISTANCE IN CAREER PLANNING

### Recruitment and Selection

There was an identified problem area in determining who enters vocational-technical programs and what their characteristics are. The characteristics might include age, sex, race, aptitude, reason for entering or leaving vocational education, and socioeconomic background. Different populations and minorities should be examined to isolate significant recruitment characteristics.

The research units listed problems concerned with gathering data on how to apply the "best treatment" to get and keep people in vocational education curricula.

According to occupational educators, there is a problem in assessing why some students choose vocational-technical programs and others choose general education programs.

. . . determine the characteristics of those potential students judged most likely to succeed in and benefit from vocational education programs as well as those students judged most likely not to succeed and benefit from such programs. (Georgia)

A determination of the nature of the people entering vocational-technical-occupational programs will be used to aid in planning state and federal programs. (Washington, D. C.)

### Counseling and Guidance

Problem areas associated with guidance were related to aspirations of students, occupational information, occupational choices, guidance procedures, adjustment to change, and geographic mobility of workers.

The research units listed problems in the areas of the development of a model counseling program, the collection of data from the labor market/manpower needs to "feed" into the guidance program, and the evaluation of current counseling and guidance programs.

Occupational educators noted problems in the area of providing a wide range of current information to students on the psychological content of occupations.

. . . various approaches to providing better occupational information to students [should be taken], developing of career resource materials, working with school guidance counselors and projecting needs for trained workers. (Pennsylvania)

It would be useful to know exactly how much high school counselors really know about the possibilities open to their students in many of the new careers, especially in the health technologies. (Maryland)

Far too little is known about the psychological content of occupations. To soundly counsel prospective job entrants we require substantially more comprehensive data regarding the content of the various psychological satisfaction associated with the vast variety of jobs comprising the occupational spectrums. (Pennsylvania)

#### Follow-up and Job Placement

Problems classified in this area include the types of follow-up information desired, methods and procedures for carrying out follow-up and placement studies, and feedback of this information into the vocational education process.

Follow-up needs listed by the research units were related to gathering data about students, programs, and employment to be used for vocational education program modification.

Topics mentioned by occupational educators were basically concerned with gathering information about students (potential employees) after they leave a vocational-technical education program. Many comments in this area indicate that much information is needed on such topics as career development, comparisons of vocational-technical and non-vocational-technical students, follow-up models and instruments, and ways of obtaining responses to follow-up surveys. One suggestion (California) was made for a national standardized follow-up survey utilizing social security numbers and income tax records which could be fed into ERIC for use by various agencies such as state departments of education.

Additional problems in vocational education included development of models, investigation of different types of students (disadvantaged, dropouts, etc.) and development of follow-up measures. Job placement topics were related to the patterns, practices, and the effectiveness of job placement activities.

Secure continuous data about applicants for vocational programs, their progress in the programs, and their performance after leaving the programs. (Minnesota)

Immediate and long-range student placement and follow-up programs [are needed]; information from such research-related programs could provide direction for valid program modification and/or justification. (Florida)

Presently, we in occupational education are required to follow-up all graduates who complete a program. We have no comparative follow-up of academic completions and if accountability is to become the watch dogs, then an efficient follow-up system of all student completions is required. (Illinois)

TRANSLATING MANPOWER DEMANDS AND INDIVIDUAL NEEDS  
INTO OCCUPATIONAL EDUCATION PROGRAMS

Graduates

Data desired about graduates were related to the effect of training on the individual's finding a job, adjusting to the job, and performance on the job. Other areas of interest were the characteristics of graduates and their reasons for completing occupational education programs.

Problems in this area listed by the research units concerned the assessment of the effect of programs on securing employment and on employment performance, and the comparison of vocational education graduates with graduates from non-vocational programs.

Problem areas recognized by occupational educators dealt with job surveys, manpower requirements for various skills, present and future labor market needs, and industry recognition of the graduates' potential.

How do students who continue their education in a postsecondary vocational education program compare with those students who are entering a vocational education program for the first time?  
(Florida)

How does the junior college graduate compare with the high school graduate in employment status five years following graduation?  
(Florida)

Dropouts

The research units listed problems in this area in terms of the development of a model for identifying potential dropouts and providing for the recycling of dropouts from formal education institutions.

Problem areas mentioned by occupational educators with regard to dropouts included the identification of potential dropouts, the means to retain these people in occupational programs, and the ways to motivate dropouts to achieve to their highest potential.

Develop a prediction model for identifying potential dropouts in public schools. (South Carolina)

There is need for programs that permit the recycling of pupils . . . who have changed their occupational ambitions and those whose training does not facilitate employment. It is recognized that the one-shot training, perhaps based on a decision forced on the student before he is vocationally mature, is not meeting the obligations of vocational education. This priority offers a variety of approaches and projects to alleviate different segments of the problem. (Pennsylvania)

#### Employment Conditions

The majority of problems identified under the major heading of translating manpower demands into occupational education programs were related to employment conditions. Much of the information desired focused on the requirements of specific jobs, the demands of a job, the relationship of training to a job, and the satisfaction that a job offers the worker.

The research units identified problems in this area in terms of determining labor market/manpower needs, predicting labor market needs and trends, and identifying careers specifically suited for the disadvantaged and handicapped.

The problems identified by occupational educators focused on the collection of job market information. Additional problems included studies on the effect of licensing, certification, and registration on

various populations and minority groups; the analysis of functions, tasks, duties, and responsibilities of various jobs; the use of paraprofessionals as aides; the identification of occupational clusters; and methods for identifying employment opportunities.

Problems in this area also included studies of employer participation in cooperative vocational-technical education programs for new and emerging careers. Occupational educators mentioned a need to validate or reject the attitude of "give us general education people and we will train them" and a need for information about the methods by which employers determine their manpower needs.

Job need survey: What kinds of persons, with what kind of training, and how many [will be needed] nationally and in as small regional units as feasible? The survey would deal with current needs and with projections for one, two, five and ten years. (Connecticut)

. . . immediate, future and long-range projected labor market needs for specific jobs and occupations; employer estimates of manpower needs; student interest trends; enrollment projection; and labor force trends. (Pennsylvania)

Devise a system for utilizing student need and occupational demand data to plan occupational programs at the state and local levels. (Minnesota)

Identify occupations and employment levels appropriate for meeting the needs of disadvantaged and handicapped students. (Florida)

How do users (employers) perceive the type of occupational training necessary for their various needs. (California)

. . . complaint is that we educators strive to provide specific vocational training and then find that the employer is perfectly happy to take the liberal arts graduate and give him an on-the-job training rather than look to those with specific training in a career program. (California)

## CONCLUSIONS AND IMPLICATIONS

When the primary aim of research is to meet the needs of people, those needs must first be identified. No research program can pursue a problem area as broad as educational research or the "improvement of education" and expect to see any positive results. The focus of the program must first be narrowed to manageable areas of attention before any lasting impact can be made.

The types of problems identified by the researchers and occupational educators seem to differ. The researchers tend to direct their attention to regional and state problems, e.g., developing model programs, inventorying facilities, and identifying the "best treatment." Occupational educators, on the other hand, are concerned with local problems, e.g., improving relations between and within occupational education groups, maintaining facilities, obtaining funds for programs, and determining why students choose particular programs and ways to improve existing programs.

Researchers and occupational educators mentioned common problems related to financing programs, conducting cost-benefit analysis of programs, planning and developing curriculum, gathering and utilizing follow-up data, identifying potential dropouts and determining manpower needs.

The specific problems identified by both researchers and occupational educators include:

How will funds be obtained for planning and implementing occupational education programs, considering the current image of educating those "left over" from elementary, secondary, and higher education programs?

There is a need to assess occupational education programs, both public and private, in terms of their efficiency and effectiveness in yielding "products" with maximum employability, satisfactory job performance, and occupational mobility.

There is a demand to develop and implement curricula to meet the career needs of the nation's youth and adults.

Training and retraining of teachers is needed in order to offer the clientele of occupational education assistance and leadership in career development.

Planning must be implemented to provide occupational education opportunities for the 80 percent of the nation's youth and adults who do not complete a four-year college program by identifying, recruiting, and placing them and by assisting them in making career choices in occupational education.

Manpower needs and trends should be determined and utilized as planning information for developing occupational education curricula and programs.

One significant finding of this method of research was that researchers and practitioners in the field of occupational education did not identify "research needs" per se. Rather, they identified problem areas they had encountered in the practice of occupational education, and they requested solutions to these problems. They did not specify that these solutions come from research, only that they somehow meet their current needs in problem-solving.

The results of this report clearly indicate that occupational educators have encountered serious problems in carrying out their responsibilities. Researchers in occupational education are asking for models, systems, and "packages" which can be implemented to solve the problems they have identified. These "packages" should be readily interpretable and practical. Practitioners at the local education agency level are interested in educational improvement systems that are valid and adaptable to local needs.

APPENDIX  
REQUEST FOR INFORMATION

April 2, 1971

The Center for Occupational Education is presently in the process of preparing a comprehensive document on the research needs, existing knowledge and ongoing research in occupational education today. In order to determine the research needs in occupational education we are conducting surveys of the nation's Research Coordinating Units and Occupational Research Units, State Directors in Education, practitioners and other interested persons.

The success of our attempt depends in large measure on the cooperation we receive from persons interested in occupational education. We are particularly anxious to obtain information from those who have to deal with the problems of vocational-technical education on a day-to-day basis, since we feel these people often have little input into the programs of research presently being carried out.

We would appreciate very much having your opinions, as a person actively involved in occupational education, of the present major problems in occupational education that need to be researched. Your response will be added to the material we have presently collected and will become part of the final document we prepare. This document will present a synthesis of the research needs identified by both practitioners and researchers in occupational education and will be made available through the Center for Occupational Education and the ERIC system. Let me reiterate, the success of our project depends upon the willingness of persons in all areas to provide us with their ideas about the problems in occupational education.

Thank you for your contribution.

Sincerely,

Allen B. Moore  
Research Associate