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VOCATIONAL-TECHNICAL TEACHER EDUCATION--NATIONAL SEMINAR PROCEEDINGS (SEPTEMBER 24-29, 1967). LEADERSHIP 15.

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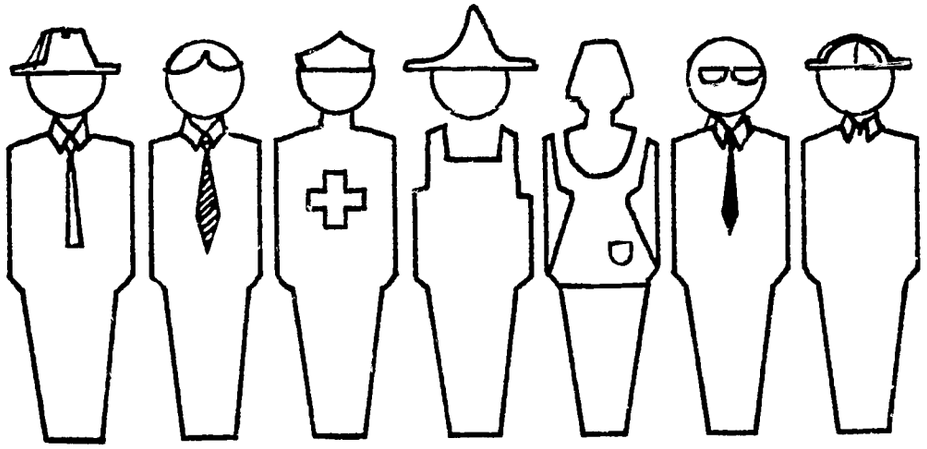
APPROXIMATELY 300 TEACHER-EDUCATORS AND NATIONAL LEADERS AND EXPERTS IN EDUCATION AND RELATED DISCIPLINES FROM 46 STATES, TWO TERRITORIES, AND TWO CANADIAN PROVINCES PARTICIPATED IN A SEMINAR TO IDENTIFY ALTERNATIVE APPROACHES FOR IMPROVING PROGRAMS IN PREPARING AND UPGRADING VOCATIONAL TEACHERS. MAJOR SPEECHES INCLUDED--(1) "URGENCY OF THE DEMAND FOR VOCATIONAL-TECHNICAL TEACHERS" BY G. VENN, (2) "AREAS OF CRITICAL IMPORTANCE IN VOCATIONAL-TECHNICAL TEACHER EDUCATION" BY M.L. BARLOW, (3) "THE ECONOMICS OF LEARNING TO WORK" BY H.F. CLARK, (4) "THE ROLE AND STATUS OF VOCATIONAL-TECHNICAL EDUCATION" BY A. WIDENER, (5) "EMERGING APPROACHES IN THE PROFESSIONAL EDUCATION OF VOCATIONAL-TECHNICAL TEACHERS" BY L.D. HASKEW, (6) "CONTRIBUTIONS OF THE BEHAVIORAL SCIENCES TO TEACHER EDUCATION" BY R.W. TYLER, (7) "RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION" BY G.I. SWANSON, AND (8) "AN APPROACH TO PROVIDING VOCATIONAL TEACHERS WITH EXPERIENCE IN THE OCCUPATION THEY TEACH" BY W.G. MEYER. SPEECHES AND DISCUSSION SUMMARIES ARE INCLUDED FOR THREE VOCATIONAL SERVICE AREA GROUP SESSIONS CONCERNED WITH IMPLICATIONS OF THE MAJOR TOPICS FOR AGRICULTURAL, BUSINESS AND OFFICE, DISTRIBUTIVE, HOME ECONOMICS, TECHNICAL, AND TRADE AND INDUSTRIAL EDUCATION. SPECIAL INTEREST GROUP SESSIONS EXPLORING MAJOR TOPIC IMPLICATIONS FOR EDUCATING HIGH SCHOOL, POST-HIGH SCHOOL, ADULT, SPECIAL NEEDS, AND LEADERSHIP DEVELOPMENT TEACHERS ARE REPORTED. THIS DOCUMENT IS AVAILABLE FOR $3.25 FROM THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION, THE OHIO STATE UNIVERSITY, 980 KINNEAR ROAD, COLUMBUS, OHIO 43212. (MM)

LEADERSHIP 15

VOCATIONAL-TECHNICAL TEACHER EDUCATION: NATIONAL SEMINAR PROCEEDINGS



THE CENTER FOR
VOCATIONAL AND
TECHNICAL EDUCATION

THE OHIO STATE
UNIVERSITY

980 KINNEAR RD.
COLUMBUS, OHIO 43212

The Center for Vocational and Technical Education has been established as an independent unit on The Ohio State University campus with a grant from the Division of Adult and Vocational Research, U. S. Office of Education. It serves a catalytic role in establishing a consortium to focus on relevant problems in vocational and technical education. The Center is comprehensive in its commitment and responsibility, multidisciplinary in its approach, and interinstitutional in its program.

The major objectives of The Center follow:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;

2. To stimulate and strengthen state, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;

3. To encourage the development of research to improve vocational and technical education in institutions of higher education and other appropriate settings;

4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;

5. To upgrade vocational education leadership (state supervisors, teacher educators, research specialists, and others) through an advanced study and in-service education program;

6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Research Information Center located in the U. S. Office of Education;

LEADERSHIP 15

VOCATIONAL-TECHNICAL TEACHER EDUCATION: NATIONAL SEMINAR PROCEEDINGS

HELD SEPTEMBER 24 THROUGH 29, 1967

NEAL E. VIVIAN, *Seminar Director*
Specialist in Distributive Education

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THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY
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FEBRUARY 1968

PREFACE

Three hundred and three participants from forty-six states, two territories and two Canadian Provinces registered for this first National Seminar on Vocational-Technical Teacher Education. The purpose of the seminar, conducted in Chicago from September 24-29, 1967, was to identify alternative approaches for improving programs in the preparation and upgrading of vocational teachers.

It was the intent of the seminar planning committee and The Center for Vocational and Technical Education staff to bring together national leaders and recognized experts in education and other related disciplines to focus on the conerns of vocational-technical teacher education. These leaders and experts acted as resource persons and interacted with vocational-technical teacher educators in this appraisal of innnovative and promising approaches to educating and training teachers of vocational and technical education.

This report is a compilation of the major speeches delivered during the seminar and the reactions of vocational-technical teacher educators to these main addresses. In addition, the presentations and the discussions within each of two series of special interest sessions are also included in this report. These special interest sessions were devoted to the implications of the major papers to the vocational service areas--agriculture, business and office, distributive education, home economics, trade and industrial, and technical education as well as the applications of these papers to interests or levels such as high school, post-high school, adults, persons with special needs, and leadership development.

The vocational-technical education profession and The Center for Vocational and Technical Education acknowledge their gratitude to The Sears-Roebuck Foundation for partially underwriting the expenses of this seminar.

Particular recognition is due to Neal E. Vivian, specialist in distributive education at The Center for Vocational and Technical Education, who served as seminar director; to other members of The Center staff for their valuable assistance, to the Seminar Planning Committee, whose members are recognized elsewhere in this report; and to Kenneth E. Hoffman, research associate in distributive education.

Robert E. Taylor
Director
The Center for Vocational and
Technical Education

INTRODUCTION

Several seminars, conferences and workshops have been conducted for teacher education in specific vocational service areas. This was the first national seminar concerned with the preparation of teachers in all areas and levels of vocational-technical education.

In an attempt to accomplish the stated objectives and purposes of the seminar, nationally recognized experts not only in vocational education but in teacher education and the behavioral sciences were involved.

Basic topics covered were: the projected demand for vocational-technical teachers, emerging approaches to professional education of teachers, innovative approaches in providing occupational experiences for teachers, recent developments in providing major field content, and the contributions of the behavioral sciences to vocational teacher education.

Each of these topics was treated in a general session with a major paper presented by a recognized leader followed with the reactions of vocational educators and other specialists.

Following the general sessions the conferees were divided into small groups to further explore the implications of these major topics. The participants were grouped first by level, such as high school, post high school, adult education, etc., and later by vocational service areas, thus allowing for a more extensive examination of the problems.

Because of the success of this conference and the continuing interest shown in this problem, additional vocational teacher education seminars are being planned. It is intended that this seminar will be the initial step in a long-range continuing program in the improvement of vocational-technical teacher education.

Neal E. Vivian
Specialist in Distributive Education

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VOCATIONAL-TECHNICAL TEACHER EDUCATION NATIONAL SEMINAR PROCEEDINGS

HELD SEPTEMBER 24 THRU 29, 1967
PICK-CONGRESS HOTEL, CHICAGO

PURPOSES AND OBJECTIVES OF THE SEMINAR

National Vocational-Technical Teacher
Education Seminar
September 24, 1967
Pick-Congress Hotel
Chicago

Robert E. Taylor*

On behalf of my co-workers at The Center, I would like to welcome you to this first national vocational teacher education seminar. It is obvious that you share our interest and concern in this topic as evidenced by your attendance. It is a most significant occasion when 303 state and national leaders from 46 states and two countries and two territories gather to pool their insights and experiences in improving and extending vocational teacher preparation. May I remind you that the strategy of the seminar requires your active participation and contributions.

With your permission I would like to quickly review the importance of this meeting and focus briefly on its purposes and objectives.

Perhaps the most serious deterrent to the continued improvement and expansion of vocational and technical education is the growing shortage of well-qualified teachers and other leadership personnel. The importance of teacher education to a sound program of vocational education has been recognized since the beginning of the program. One of the hallmarks of the Smith-Hughes Act was its recognition of the importance of teacher education. Other national commissions and advisory groups including the President's Panel of Consultants have revalidated and reinforced the vital role assigned teacher education. The Vocational Education Act of 1963 further extends our opportunities and responsibilities in this area.

In one of his messages, the late President Kennedy issued the following challenge:

> Our twin goals must be a new standard of excellence in education and the availability of such excellence to all who are willing and able to pursue it.

If we are to meet this challenge, then we all recognize, I am sure, that vocational and technical education will be only as good as those who teach it, or, stated differently, it can be no better than those who teach it.

The availability of high quality vocational and technical education also will be dependent upon an adequate supply of well-trained teachers. Thus, the improvement and expansion of teacher education programs becomes an activity of highest priority in a period when employment opportunities will be brightest for those who possess sound occupational preparation.

The impact of technological developments, coupled with the fantastic increase of information, soaring school enrollments, new research and innovations in instruction, and the implications of educational technology, all demand new directions in teacher education.

During the seminar we may wish to consider how can we more effectively articulate vocational and technical education and teacher preparation with other levels and elements of education? How can we optimize the role of the professional, scientific, and business communities in the preparation of vocational teachers? What are the implications of differentiated staffing? Team teaching? Interservice programs? Ungraded classes? Microteaching for vocational teacher preparation?

In this time of accelerated change with reduced tolerance for error, we must not only keep abreast of research and innovation in our own and supporting fields, we

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*Robert E. Taylor, director, The Center for Vocational and Technical Education, The Ohio State University.

must provide vision and leadership in initiating creative and imaginative approaches to improving both the effectiveness and efficiency of vocational teacher education.

It has been projected that by 1975 the enrollment in vocational education programs will be over 14 million students. When this figure is compared to the 6.8 million students enrolled in these programs in 1967, the need for more teachers is dramatically evident. The demand for teachers will be especially high at the post high school level.

Further, new types of teachers will be needed. It appears our problems will not be totally solved with "more of the same."

All of these factors point to the need to recruit and place competent individuals in teaching positions. The solution to this problem will lead directly to another task: if increased numbers of students are to be trained as teachers in vocational and technical fields, new techniques must be initiated at the university level to effectively handle the larger numbers. Efficient use of current staff time and university facilities is a crucial item.

Lowell Burkett, executive director of the American Vocational Association, points out that forty-six thousand additional leadership personnel are needed for projected expansion of vocational education during the next three years. However, in our zeal to meet "production quotas" to provide the needed numbers of teachers, we must not lose sight of the quality implications in our preparation programs.

Within vocational education itself recent developments further underscore the necessity for a concerned attack upon the problem of improving both the quantity and quality of teachers so that we may adequately staff expanding programs. Among these new developments are:

1. The inclusion of business and office education within the family of reimbursed vocational programs;
2. The increased emphasis on off-farm agricultural occupations and the post high school technical programs in agricultural education;
3. The enrollment in distributive education to include other than employed persons;
4. The occupational preparation emphasis in home economics education;
5. The expanding role of technical education due to growing applications of technology in the new and emerging occupations;
6. The trend toward post-high school education;
7. The provisions in the Act to support instruction in content as a part of the teacher education program;
8. Increased emphasis on programs for the disadvantaged. (As an aside comment, I believe we are confronted with one of our greatest challenges and opportunities in the history of our profession--to develop effective programs for the disadvantaged. With the national unemployment rate down to almost 3½ percent, over 20 percent of the young people in our country between the ages of 16 and 22 are unemployed. Over 30 percent of the Negro youth in this same age group are unemployed. New programs and new teachers are needed.)

For these and other reasons, leaders in vocational education are unanimous in their concern for bettering teacher education. No aspect of our program has greater urgency.

It is the intent of this seminar to bring together national leaders and recognized experts in education and other related disciplines as resource people and vocational teacher educators as participants to share and analyze the results of recent research, experimental programs, and new developments in education; to investigate their implications for vocational teacher education; and to explore the most viable, innovative, and promising approaches in the preparation of vocational teachers.

Realizing the urgency of the situation, The Center for Vocational and Technical Education has planned this first national seminar on vocational-technical teacher education. Although teacher education conferences have been held for special service areas, this seminar is, to our knowledge, the first one designed for teacher educators in all vocational programs.

On March 9 and 10 of this year, a committee composed of national leaders in vocational-technical education met with The Center staff to determine objectives, desired outcomes, and the general procedures to accomplish these for the seminar. Members of the committee are:

James Clouse, chairman, Agricultural Education Section, Purdue University;
Gordon G. McMahon, director, Division of Vocational-Technical Education, State University of New York at Oswego;
M. Ray Karnes, chairman, Department of Vocational and Technical Education; University of Illinois;
John L. Rowe, chairman, Department of Business Education, University of North Dakota;
Anna M. Gorman, head, Graduate Program and Research, Home Economics Teacher Education, University of Kentucky;
Earl Bowler, assistant director of Program Services Branch, Division of Vocational and Technical Education, U. S. Office of Education;
Warren G. Meyer, professor of Distributive Education, University of Minnesota;
James McGoye, consultant, Manpower Development and Training, U. S. Office of Education. We are indebted to this committee in planning this seminar.

We are proud of the nationally recognized consultants that will be participating in the seminar during the week. With these leaders as resource persons and vocational teacher educators as participants, it is the intent of our seminar to:

1. Analyze the results of recent research, experimental programs, and new developments in education and behavioral sciences;
2. Investigate their implications for vocational-technical teacher education; and
3. Explore the most viable, innovative, and promising approaches in the preparation of vocational-technical teachers.

The ultimate objective of the seminar is to initiate a long-range continuing program to improve the preparation of vocational-technical teachers. It is not enough that we analyze, investigate, and explore--while these are important, our goals will not be accomplished unless you participants who are leaders in your own states return and put into practice what we discuss at the seminar.

In this respect you may wish to give special attention to the following:

1. What are the immediate implications for action? What do we now know that can be implemented immediately?
2. What additional research is suggested?
3. What experimental, developmental, or pilot programs are indicated?
4. What additional seminars or conferences might be needed to help implement a continuing program of the improvement of teacher education?
5. What agencies and institutions should be involved in such activities?

Another outcome of this seminar should be an improved and broadened understanding by the participants of teacher education in other vocational services and in the total program of vocational-technical teacher education. This seminar will provide one of the first opportunities for vocational teacher educators to get together in a single purpose conference. It should enable us to know each other better, to share experiences, and to react to each other's problems and philosophies. I hope it will give us a sense of unity and a sense of sharing in a vital mission--the improvement and expansion of vocational-technical education through revitalized teacher education programs.

The success of the seminar will be largely in your hands. What you do here and, more importantly, after you return to your positions of leadership could make a very significant impact, not only on vocational teacher education, but on the entire program of vocational-technical education.

URGENCY OF THE DEMAND FOR VOCATIONAL-TECHNICAL TEACHERS

Telelecture from Washington, D. C.

Grant Venn*

Let me begin with comments on what appears to be our present need for vocational programs which are already in operation. We find that our program's growth picture looks like this: Enrollment in vocational and technical education has increased from 4,566,000 in 1964, to 6,270,000 in 1966, or an increase of over 1½ million since the passage of the Vocational Education Act of 1963. The growth rate in 1964-1966 shows an increase of 43 percent at the secondary level, 156 percent at the post-secondary level, and 13 percent at the adult level. I would guess that that ratio of increase is likely to continue at that same rate. Actually I believe this is only the beginning because if we took care of as many young people and adults who desperately need vocational education, it would far exceed the growth figures which apply just to the programs that are now in effect. In the growth projections made by the Vocational Division, by 1970 will be the following situation: That about 35 percent of the secondary enrollment, or nearly 5,000,000 students, will be enrolled in high school vocational education programs. And if the additional 15 to 20 percent that probably will not go to college for baccalaureate degrees are enrolled at the post-secondary level, this gives some indication of that growth picture. In addition to this, we will have several hundred thousand of this 5 million who will be enrolled in classes or programs for persons with special needs. We anticipate by state projections that 650,000 will be enrolled in post-secondary programs, and I believe that is a very low figure. (Growth will be at a rate of 50,000 per year through 1970, at which time enrollment will increase at a rate of 100,000 per year until 1975.

Even with these projected enrollments we haven't looked at the real heart of the need for vocational teachers and vocational teaching personnel, because there might be some difference in the future between what we now know as a vocational teacher and what we actually need in the way of a manpower force involved in teaching occupational skills. In fact, while our present need is one of numbers, probably there is even a greater need for new kinds of people working in the area of vocational education. In fact, one could say the present need is not great; the need is great in terms of a new kind of person in many of these fields.

I have come up with seven factors that I think demand immediate attention as far as the state, universities and colleges most directly involved in the preparation of teachers. The first area, or the first factor, demanding immediate attention is the simple factor of growth. This, if there were no change in our technological society, if there were no change in our culture, this fact alone would demand a great deal more input in the area of teacher training than we are now providing.

The second factor (that I think is even greater than the growth factor) is the wider range of individuals that we must now serve in vocational eduation. This can best be described by a phrase that I have heard used which simply says that in the last two decades, we have had a vocational education system "down on its crutches." That system of teaching people occupational skills is simply the entry of an individual into the work force. Many young people, in fact the majority of our adults in the work force today, simply left school. They had been helped to learn to work, get a job, then learned their vocational skills on the job through a pick-up method. The fact is that this school system has literally closed down. The individual who has not completed high school, or even having completed high school has failed to get some entry job skill, is very unlikely to be admitted into a tight labor market. Even in a labor market, or a market which has high demand for workers, most young people find they

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have very little chance even to apply unless they have graduated from high school, have some vocational skills or had some work experience. So this wider range of individuals speaks to those who need rather low level entry job skills. At the other end of the scale are the thousands of adults in our work force today who need constant retraining and up-grading of their work skills in order that they may stay on the job or can move into new areas of work, especially when they find themselves in a work that is now being slowed down or decreased through technological change. We have also, if we wish to add to this wider range of individuals, the large number of women who, due to the freedom that has been made available through technology, are now looking for an opportunity to make a contribution to society and they need the training and education which will give them work skills. That is the second area that I think we have to think about in terms of teacher training, and I think it has some implications for a new kind of teacher training than we have had in the past.

The third factor, which demands immediate attention for increase in quantity and quality of teacher preparation, is the up-dating of present staff that are now working and teaching in schools. Many of us, and I say us because I imagine most of us in the audience would have to agree that it would apply as it does to me, need an up-dating of our present technological skills in areas in which we are working. In technical fields and particularly in the specialized occupational areas, the teacher on the job who simply continues to teach without some retraining and up-grading both in his field of knowledge as well as in his teaching skills, is soon going to be decreasing or increasingly less productive.

Then there is the fourth factor that I think demands immediate attention--new developments in teaching technology and methods. One of the big factors that I think we here in Washington in the Office of Education run into as we deal with your departments and as we deal with Congress in presenting the needs of vocational education in legislation to expand it, is how can we afford to expand vocational education where given costs are higher than they are in certain other education fields. I think there are now developing, and have been developing over the last several years, new technologies for providing certain kinds of instruction which we need to use much more in the vocational fields. And perhaps we have not been as alert to this and as sensitive to the possibilities of these new technologies particularly in the use of computers, the use of program materials and so forth as we might be (and those are just two that I mentioned).

The fifth factor which it seems we need to look at in terms of expanding and improving teacher education are the newer fields to be served. By newer fields, I mean the newer areas of occupations which are demanding skill training and which we have not now generally included in our school program, but which are really becoming a core and a part of many of the other kinds of vocational programs funded by federal legislation. Some of the fields that I would see are as follows. In the para-medical field, we are making a start in technology in the areas of practical nursing, nurses aides, health care for older people. We can also expand in the area of child care where many working mothers provide pre-school programs for the youngsters prior to kindergarten (many families now provide pre-school or the schools do). These programs may need many teachers with less than a baccalaureate degree. There is the whole field of teaching and teacher aides, teacher technicians which I think we are just beginning to move into. We know at the present time we have over 140,000 people working in Title I programs across the country who are not professionals in the sense of being teachers: they are assistants to teachers, and have special training and provide certain kinds of work that needs to be done so that the teachers can be more effective persons. Another field is that of social workers. Now with medi-care, with older people, we have people concerned with the expansion of the social work, worker needs, and technicians in the field of clerical and office work. We also have the whole area, I believe, of recreation in which there are many, many jobs expanding at a rapid rate which would and could use people with high school educations or a little more than a high school education with certain kinds of technical training. I think another field for which we are going to have to prepare teachers or specialists in this field is the whole area of work studies for our vocational program, for I believe distributive education-cooperative education program is going to have to be expanded a great deal more. So that is the fifth area. These new fields or new areas of work, because as you people well know the work force today is made up of about 60 percent in the service and distribution areas as compared to 40 percent in the production areas and the original trust for vocational education was in production, development of goods and materials, and this pattern of change is increasing very rapidly.

The sixth area that I think we need to look at very carefully is new dimensions of activities which are going to have to become a part of the total vocational education program if the program itself is really going to serve youngsters effectively. Now we know that simply teaching youngsters the facts is not getting them an education, and I think we are beginning to know more and more that simply teaching vocational

skills or job skills is not going to do the job in terms of getting youngsters to select the proper kinds of education, the proper kind of vocational goals in terms of their own abilities and their own aspirations, and so forth.

These new dimensions of activities for which we must begin to prepare a much larger number of people are the following: The first area is this matter of occupational orientation for younger students and their parents. Now we have never spent funds for vocational education strictly on an occupational orientation program for youngsters below the high school level, yet the evidence continues to pile up that young people today have very little opportunity to find out what future occupations are, and occupations are foreign to them. I think we have to begin to develop trained people who know how to organize instruction programs in the school to give occupational information and orientation to young people--starting at the elementary level, particularly in the junior high school level and through high school--because unless we do this I think many youngsters and their parents are going to continue to feel that vocational education is a second choice if they can't make their first choice which would be an academic direction. We do not have any people prepared in this area and, as far as I know, do not have programs specifically planned in this area.

A second kind of purpose we are going to need in these new kinds of activities in vocational education is the specialist in the work study, cooperative education or whatever term might be used. I think we will find many more students both in the high school level and the post-secondary level who will spend part of their time in school, part of their time in academic classes, part of their time in specific vocational skills areas, and part of their time on a job getting certain kinds of work experience for which I hope they will receive academic credit in their high school and the post secondary, too. We have done this for years in the medical field, the law field, and I think we have to now spread this to many other occupational areas because the need for vocational education is so great, the work force group is composed now so that we cannot, in my judgment, possibly replicate actual working conditions in our institutions. We are going to have to have an outreach from the school connected with the employer to businesses and industry in the communities where it becomes a short venture. I had the privilege a few weeks ago of spending three days in New York with the National Industrial Conference Board, and some of the top business and industry people in the country and I believe that they are more than anxious to get involved in helping us actually train these young people so that they have job skills. I believe it is going to take a specially trained kind of person who understands industry and its problems, who understands the local community, who understands the school, the vocational program, and can tie these packages together. Particularly, I think he is going to have to be trained by our vocational education people. I don't think this is something he can just pick up off the street, but the teacher who is really concentrating on the classes and other activities of vocational education, can't really tie in the kind of work experience program we will need in the future, unless, on a part-time basis.

Thirdly, we are going to need to train some teachers who have skills in providing what might be called a short, intensive entry-skills program, which in one semester you give this boy or girl the kind of entry skills in the clerical field, business field, mechanical or whatever it might be that will allow him to begin to work at the end of that one short semester intensive course. I am thinking of the example of the boy or girl who spends his whole time in a general program (and as far as I am concerned I think we would do away with general education program; I don't believe it fits anybody. Either they should be in a college preparatory program going all out in that direction or in a vocational program--all students). In any case, I think until that happens we are going to have to develop people who have the specialty in developing short intensive courses for a boy or girl who is not going to go on to college but has to get a skill in order to get a job, or the boy or girl who has graduated and now finds that he can't get a job because he lacks skills. I don't think we will be able to bring them all the way back and start over.

The fourth kind of person I think we are going to need to train in our colleges and universities or in combination with the schools is the person who is a specialist in helping the youngster make the transition from school to work, the area of placement and follow up. I have become more and more convinced that unless one of the purposes of the school is clearly understood to be the responsibility of helping every boy and girl who does not go on for additional school to get his first job, unless the school has that responsibility clearly defined and understood, we aren't likely to get the needed kind of changes in our school program. We are going to have to get in the position of answering at the end of the school year, if a boy or girl is not going to college, in the same manner we now talk about enough percentage going to college or enough for a merit scholar who has been able to get in a particular school.

As you know, we had a bill before Congress on which hearings have been held before the Judicial Committee, which does provide special funds for the kind of program in all

fifty states in the four areas that I mentioned. One of the questions that is being asked is: Where are you going to get the people to run these programs? As for these new dimensions of activities in which we are not now involved, I get the feeling we have to jump in the water and start to swim and develop some ways of training these people. I hope that this seminar will address itself to some of these newer dimensions.

The last broad area I think we have to train vocational teachers for is in the whole area of teaching the disadvantaged. The number of dollars that the federal government has made available for occupational education and vocational programs for the disadvantaged exceeds the total vocational education funds by a million. And the question that seems to continually be asked is: What is the role of the school in the handling and the teaching and preparation of young people who are now really locked out of our society: the big city, the ghetto, the rural poor. Frankly we (by we, I refer to the whole educational community) have not been able to get at this problem. First because no one wanted it in my judgment; and second, because we never had the money. But I believe that in the long run we will have to take these youngsters on rather than have them become dropouts of our school system. If we don't we are going to have a segregated situation in our communities and in our country that will make our racial segregation look like small potatoes. If we come to the point where certain kids can't go on to school and they go to a separate kind of school system from the others, it is my judgment and my firm belief that the vocational educator is better prepared and better able to tackle this job than are any of the others located in our schools in this country. Yet, we have not so far as I know, really developed programs to give people interested in this particular group of youth in a high school or post-secondary school, the kind of skills and understanding that it is going to take to face up to this job and do it in a good way. I think that funds are going to be made available, because I think we have to solve this problem.

In closing, let me just say that I believe that until we do get more direct funds and get additional funds, that the state, state department of education and the colleges and universities are simply going to have to take a part in this and set aside additional funds from the vocational lockers of that state for the development expansion, and improvement of the teacher education programs, and particularly for the development of some new kind of specialist to work with the vocational teacher to expand his knowledge of the field far beyond what he is able to provide directly as a teacher in a classroom situation.

I am so sorry that I could not be with you tonight, but I hope that these few remarks will be helpful and will give some assistance in making this a very worthwhile seminar as to the beliefs that we need to find in this whole problem of teacher education in vocational and technical education.

AREAS OF CRITICAL IMPORTANCE IN VOCATIONAL-TECHNICAL TEACHER EDUCATION

Melvin L. Barlow*

When you are the third speaker on a program, it doesn't leave you much to say, but it does give you the opportunity to up date all the out-of-date statistics that the two previous speakers have used.

First, I was just thinking a minute ago that since history has always been very, very close to my heart, particularly history relating to vocational education, that this in itself is a very historic occasion. I can point to some early routes that probably might have been somewhat similar to this, but at no time ever before has this particular thing happened. I was thinking a few minutes ago at the table that out in this audience there are thousands and thousands of years of experience in vocational teacher education and that most certainly we have the brains of the whole country here before us.

Despite any other figures that you have had before you, there were in 1966, 6,070,059 people enrolled in vocational education, at least, that is the figure that is being published. For the three years prior to 1966, the increase in vocational education ran about 4% per year. The three years past 1963, past the Vocational Education Act, the increase has been about 14% per year. It is my estimate based upon the returns from 40 states and 2 territories that our gain so far in 1967 is 16% over 1966. We have not heard from 10 states and Puerto Rico and Guam yet, but if they maintain their same enrollment, our total enrollment for 1967 ought to be 7,161,059. That is a gain of 18%. If they happen to report more than their same enrollment last year, our gain will be considerably more than 18%. I doubt that it would exceed 20% because I don't think there is enough power, enough possibility in the states that are left to bring this up. But this is a tremendous gain.

Do you realize that in the past year, we have gone up over one million students enrolled. When Dr. Taylor told you a few minutes ago that we will reach 14 million in 1975, I am willing to bet that we will reach it in 1972, if we keep this up.

This is fun to play around with the statistics because this is what part of our problem is: that we have to know something about the size of the group we are teaching and what is happening to that particular group, and it is growing--growing rapidly, and it is very likely to exceed projections. I think we are almost going to have to arrange or revise projections frequently.

I want to spend a few minutes to talk about 5 different points: how large the task is that is facing us in teacher education; the numbers distribution of teacher educators; the scope of the responsibility of teacher education; leadership roles; and the fifth item, preparation of teacher educators; then perhaps a very small summary. I'd like to spend all my time talking about how fabulous and what a tremendously sound vocational education program we have from our founding fathers which they built with very creative ideas, imaginative ideas, and of course, as you know, integrated within this program was this whole concept of teacher education. This did in fact ring out loud and clear in the Vocational Education Act of 1917. It is a very interesting thing, that while they insisted we have teacher education, they did leave it up to the states to develop their own program, so now we have 50 different kinds. This has been part of our problem, but it has also been part of a great success that we have. There have been great changes occurring in the long historical period. However, there is one thing it has not changed one bit in the 50 years. This is the concentration or the dedication and original enthusiasm that vocational education has had for teacher education. That,

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I think, has not changed. We have treated that honestly and fairly in a good many respects and we still believe it. Otherwise there wouldn't be 300 people here at this conference.

Let's talk just a moment about the items. Item number one: How large is this task in teacher education? I think some figures were given to you about the numbers of teachers. We really haven't known how many teachers we have until just recently, because it is pretty hard to tabulate them. They teach in the morning, then they teach in the afternoon, then they teach a couple of nights a week, and we really haven't been able to sort out all these numbers as to whether we are counting one person or four. But in 1966--it is kind of a target year--the people in Washington believe that there were 124,042 teachers. There have been some projections on this basis up until 1970 and 1975. But how is this going to change, how large is the problem? If we think in terms of anything less than 15% per year, we are in trouble. I get a bit uncomfortable when I think of more than 25% increase per year in teachers. This gives us a little range to hit for, although it may take a little more time for us to find out with some realism exactly what these figures would be. But certainly, you see our group in 1965 and 1966 increased by 16%, so I can't believe this is going to be any less.

In terms of teacher education, we used to think a great deal about the pre-service, in-service types and we had distinguished between these two groups. Actually what we will probably have is not just so many enrolled in teacher education, which is a fraction of the total number of teachers, but the maximum limit is going to be the total number of teachers, if we really get down to the in-service training job confronting us. In other words, if you have 2,000 vocational teachers in your particular state you are going to have to have 2,000 in training, at least. This is all those who are just beginning and all those who might be wearing out that we don't want to lose. Of course, this scares you a little bit; I can see Dave Allen sitting back there, shaking from here. He had 600, 700, or 800 people in his program last year and what would he do if he had twice that number? I don't know, but it is likely to come. Well, let's look at the number of teacher educators. It is interesting that despite the depth and concern we have had for teacher education over all these years, there is practically no evidence that we have had similar concern for the people who teach teachers. The federal acts and the rules or regulations simply ignore the whole problem, and this is going to have to get into the context of your conference here very definitely. I think that in 1966 we had 2,145 teacher educators teaching in 260 institutions and 56 state departments of education, (Every time I say something like this, someone will say, that can't be right, I know of 300 people you haven't counted.) Well, this is the best figure that I can give you at the moment. These are the ones that have some designation as to some responsibility for teacher education as far as the Office of Education records are concerned. Now, I tried a number of little diagrams for this report we are writing about the number of teacher educators in the United States. In some kind of relationship I am taking both full-time and part-time teacher educators and the total number of vocational teachers. Happily enough California comes out on top. This, of course, means that it is the worse case, I am sorry to say, because in California we assign to each teacher educator 306 teachers for whom he is responsible. The national average is 58, and some states have only 27. There is a tremendous difference among the states on the work load that we put on teacher educators. I can't give you any real sound values on what happens in your particular state, I don't even know what these numbers mean actually, except that they do mean that we are far from having any kind of a uniform understanding of what a teacher educator does as far as the various states are concerned. Let me let it ride at that point.

The variations from 27 vocational teachers per teacher educator to 306 is quite a bit. If we look about the distribution, of teacher educators among the various fields, I think you will find some interesting things. For example, agriculture has about 15% of the enrollment, they have 11% of the teacher educators. Home economics has 33% of the teacher educators; 31% of the program. Trade and industrial has 24% of the teacher educators and 21% of the program. We are kind of balanced this way in terms of our relationship among the services. But what we have these people do, of course, is the place where we vary greatly across the country. This is going to have to have some discussion during this meeting this week I am sure. Well, what about this third item, the scope of teacher education responsibility. By and large we have placed our focus upon preparing the untrained prospective teacher, this has been pretty largely the area in which most of our chips have been placed in our betting. Now this is where the change is coming in. I think the change is coming in the fact that in addition to the prospective teacher we have all the other teachers to deal with and, of course, this is going to take considerable amounts of effort in order for us to reach that goal. The in-service part, this tremendously large part of in-service teacher education, I like to think of as having three parts. Maybe it ought to have five or only two, I don't know, but most certainly there is a problem of up dating the skill knowledge, the technical understanding that the teacher has in his own occupational area or the

areas that he is responsible for. This is certainly one facet of it in the in-service program. The second facet has to do with the teaching of and up dating just in the professional areas. We are learning lots in research about how people learn, research in teacher education, research in teaching, and somehow or other we have to have a part of our in-service program devoted to that. The other part is the part that would come. The third part would seem to come under the heading of institutes, conferences, seminars, and things of this nature so we can get together and share ideas. It is awfully hard to prove the real value of these except everyone likes them and everyone feels that they get something out of them. And most certainly it seems to me that we are going to have to have these clinics, conferences, and other kinds of meetings in order for us to have an opportunity to share with the other groups of teachers these common experiences. I doubt very much that this renaissance we are talking about in teacher education involves scrapping everything that has been done. This doesn't quite seem to ring true in my book.

I do think, though, that the obligation is pretty much one of building on these proven values and of course, expanding the scope of responsibility, then providing, I guess we can say, maximum flexibility in teacher education. I hear that some states may have one standard prescription and everybody falls in the same trap for the same bucket. Like it or not, that is the way it happens. Well you can hardly justify that point of view in that particular area.

Let me get down to my point number four. This has to do with leadership, and it is leadership in teacher education. It seems to me that there is no question that we have to have a leadership that originates in what we might call a national level or a national sphere. I can see these possibilities. Certainly the Office of Education is one of the areas that would contribute to leadership in teacher education. I see the American Vocational Association as one of them, and of course the conference that is being conducted here. There is leadership from the Center in Ohio that is bringing everyone together in order for us to have the opportunity to look a little bit further in our teacher education program. Maybe there are other national areas that I have missed in this case, but certainly the leadership role has a national strain to it. Perhaps, too, there is a regional that would go along with it. But there is something that has to happen in each of the states and this is the part that I think is real tricky. We can say very blindly that the sate director should take full responsibility to see that teacher education is provided for all of the teachers, and expand the program and so forth, but this works just fine in some places, but it doesn't work too well other places.

The total enrollment in vocational education in Wyoming is less than the day school enrollment in Los Angeles Trade Technical College in Los Angeles. The situation we get into in a particular region where you have very few people scattered over a large area is that you cannot use the same kind of a pattern here, the same leadership role. This may mean that we ought to devise some very keen ways of using adjacent states so that we have not just one state trying to satisfy its own needs but several states pooling their resources. Quite a bit of information has come to us on the council about this particular area: people who are concerned about it and the leadership that has to come. It may have to come from a national area in order to help the states plan in this particular area. I can say that there has to be more money in the Office of Education, more people. This is just part of the problem that we have not had enough opportunities to look carefully or to give all of the attention that we should give at the national level in the Office of Education.

Now I will get at point five: this preparation of teacher educators. I don't know whether there is any one way that they have been prepared or not. Some people might argue that they haven't been at all, I don't know. But certainly there are several items which ought to be a part of their preparation. I can hardly visualize a teacher educator in the future who isn't pretty well understanding in the area of research. I don't know what this means, and maybe it means more than a course in research methods. We are so rapidly becoming attuned to research as a way of life that teacher educators are certainly going to have to have some of these experiences. In other words, they ought not be completely ignorant in this area. The number two item I see in this part of the program for teacher educators would certainly fall in the whole area of curriculum theory and I don't know just what Larry Haskew is going to talk about tomorrow, but you ought to listen twice because there are some good ideas in here to throw into this pot about the kind of training that teacher educators ought to have in curriculum theory. We have talked about evaluation so much that certainly the teacher educator ought not be completely ignorant about evaluation.

This council that I have some responsibility working with talks about being a council that is evaluating vocational education. Well, in the first place the word evaluation doesn't appear anyplace in the law, but it is a good thing it doesn't appear because we haven't any measuring sticks to put any kind of absolute values on it.

To get to our teacher educator of the future, he is going to have to have a pretty good understanding in the whole area of evaluation techniques, whatever they happen to be. I couldn't get by with this thinking without putting a fourth item down here, and I use one word, philosophy. I don't like to use it because it means a great deal more than that, but teacher educators simply must have a depth of study in philosophy of American education, vocational education. It is a very definite part, and I think in some cases, a very definite lack if we would try to make an evaluation of our own strengths and weaknesses.

I'd like to summarize these items for a moment for you. There is no question that teacher education is the essential element in the expansion of vocational education. The complexities that you are going to talk about, that you already know about, simply place a picture before us that will take a great deal of sophistication in all facets of education for us to solve and the key person is the teacher. We can think of the program of teacher education and the competent teacher. I'd like to think of it from a standpoint that has three parts. Certainly in teacher preparation education generally we are talking about formal educational preparation that the person has. And again we are talking about the subject matter competency and we are talking about the command of the practical interpretation of the theory, learning theory and teaching theory. And we have to keep moving on all of these fronts all of the time. When someone asks me, "How long does it take to learn to become a good teacher?" I have to say that I don't know, I have only been in it 26 years. The point here is that this is not something that we give the fellow in 400 hours or four years or whatnot, it has to become a part of, now certainly more than ever before, his total experience.

One problem that occurs here in connection with our thinking of teacher education and change is that we know very little about the characteristics of teachers in this country. When I tried to introduce a section into our report I had to come up with only two studies that had been made within the past five years and these were from the same area of education. We simply don't know very much about the teachers of vocational education. I sometimes like to think, "What is this going to mean for the future; what kinds of adjustments are going to take place; what are the major elements that have the significant bearing upon the adjustments?" Most certainly one of the things that you are going to talk about are sources of vocational teachers. This is going to have to expand, it is going to have to change, we are going to have to find other sources in addition to expanding other programs, or other existing sources that you have. No matter how good any pattern that we have in any area of vocational teacher education is, I think this simply has to suffer some change. We have to live a little bit dangerously when we think about it. This is: sources of teachers. Another point is flexibility in state certification. This has had negative reaction from people in the field that we have consulted with. They want to make some changes, they want to live dangerously, they want to react to the new environment, but the state certification requirements won't let them. I think maybe this must have a good careful look. Remember way back there in the early days when Prosser and some of the others were trying to develop this program of vocational education. They thought very carefully about this certification process, and insisted that each state have a policy about it. Every state did, and some of them still have it.

The fourth item gets right down personal again. This is the selection and upgrading of teacher educators. The one thing that forever gets lost in the discussions, is the plight of the person that has to carry on the burden of teacher education. They are always in short supply and they are very key to the whole process. Somone earlier this evening made reference to a history that has been published. Somewhere in that book I think it tells the story about the early directors, when they were thinking about teacher education. This is probably prior to 1912 that this occurred, probably 1910 to 1912 anyway. They were thinking about the necessity of teacher education, and it suddenly dawned on them, "Who is going to do the teaching of the teachers?" They went into a long discussion about what the characteristics of the paragon of virtue is going to be. It was very interesting that they set very, very, very high standards. One thing that they suggested or recommended was that the teacher get around and visit other places, see other schools in operation, see other teachers in operation. This is one reason that we need a conference like this.

At that particular period of time going to Germany was the rage. They said, "please don't go to Germany, stay at home because we want to find out what is going on right here." They had the gall to suggest that the person do this on his own time and on his own pay, to get out and up grade himself, and this ought to be kind of a continuous process. There is something about that that is really exciting.

I am going to close my remarks by reading just a few items from the editor's note of Life magazine January 13, 1967. This is entitled, "A Warm Tribute to the Teacher." The editor points out that two of the photographers in that particular issue of Life and in recent issues were graduates of the vocational photography class, a 1600 hour

class, in Freemont High School in Los Angeles, a class taught by a man by the name of Fox, Clarence Fox. He is retired some years now. But the editor goes on to tell about the quality that these people have and what they have exhibited in their work as photographers for Life magazine. They tell their own story in part of how they play tricks upon Fox by putting flash bulbs in the lamp. When he turned on the lamp the flash bulb would go off and things like this, but he always got revenge and demanded pretty high standards.

I would like to read just the last paragraph. "We really love photography with a passion. And though we had strange ways of showing it, we loved and respected C. A. Fox. There was a feeling that every day would bring something new and exciting and Fox was leading us to greater and greater things in and through photography. He was fiercely proud of his graduates and insisted that we keep the grapevine going. He meant that we were to help each other. We did, and we still do." This had a little meaning for me in that I think teacher educators have the whole quality, the whole destiny of vocational education in the palm of their hand. I am kind of glad to be a member of such an illustrous group as I see here, and thank you, Dr. Taylor, for inviting me.

THE ECONOMICS OF LEARNING TO WORK

With Particular Attention to the Changing Role of the Teacher

Harold F. Clark*

It is a great pleasure to have the opportunity to talk to you. All of you know more about teaching vocational education than I do, but I may be able to put part of the problem in a somewhat different setting. This may help you to see some additional opportunities and challenge in your work.

The modern industrial world requires that almost all workers be trained for the work they are going to do.

There are at least three parts of the training. There is the general education required, the training in the specific skills, and training in the attitude toward work.

Training must be provided before the first job, it must be continued on the first job, and it must be almost continuous through the working life. Before I turn to the specific job of the teacher, I want to say something about the economic and social background of training for work in the modern world.

"Probably most of what man has learned through the ages he has learned from work." (Ohio State Bulletin.) In the past men learned to work from working. He learned it from his parents, grandparents and others in the community.

There was a time when most jobs could be learned on the job. This was true of the farmer, the office worker, the mechanic, and even the doctor. At the time of our great-grandparents, most doctors had not gone to medical school. They had learned to be doctors by going around with a doctor. Now a doctor must go to a medical school.

The speed of the growth of knowledge has upset these historic ways of learning to work. They should still be used, but must be supplemented by other methods. One or two facts will illustrate the rate of growth of knowledge.

In 1890 probably not more than 10 million dollars were spent in the United States by all agencies on research. This includes the universities, government, business, private agencies, and all others. By 1900 the figures were about 100 million, by 1940 about 1 billion and now about twenty-six billion.

It is probably not unreasonable to think that more money has been spent on research and development in the last 10 years than in all previous time.

Some authorities think that in physics, chemistry, parts of medicine, and biology, knowledge may be doubling in 8 or 10 years. It may even be true in certain parts of agriculture, knowledge of computers, and some engineering fields. The effects of this rapid expansion of knowledge upon teaching how to work is very great.

One of the very obvious effects is the speeding up of the rate of change in many occupations.

The farmer who does not keep up to date is likely to get into trouble. The same is true of the doctor, nurse, mechanic, and a thousand other occupations. This means that we are not only faced with the original training of the worker, but with keeping the training up to date. It may be that the most important single thing to teach any

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worker is that he must go on with his training all his life. We have built schools to teach almost any job skills you can mention. These schools must have teachers.

I should like to describe some of the training facilities that you may not know too well. A few years ago I knew very little about them.

I want to describe four school systems other than the regular elementary, high school, college, university system. The first of these is the training system run by business and industry.

CLASSROOM IN THE FACTORIES

American business and industry is carrying on a massive program of training and education extending all the way from the beginning factory worker to the continuing education of top management.

Let me trace briefly, and not too accurately, the development of training in industry. As you know, during the 19th century, most training for work was done on the job by the owner, manager, or some other workman. Around the end of the century, some very large business organizations were being formed in steel, tobacco, oil, sugar, and others.

The companies were too big for the old methods of training to work. Foremen and supervisors needed some instructions on how to carry out their functions. Classes for foremen and supervisors were set up. By and large, they proved successful, and it is reasonable to say that by the beginning of the first world war, a good many large American industries were convinced of the value of training supervisors and foremen.

Many additional worker had to be trained during World War I. By the end of the war many companies saw the advantage of training both the worker and foremen.

During the 1920's and 1930's training expanded to lower and middle management. During the 1940's and 1950's it expanded into upper management.

During the whole period, training was expanding not only from the bottom to the top, but was expanding in another direction.

At first the training was closely job related. It soon expanded to closely related fields, then into science and mathematics. There it expanded into the social sciences. As one example it expanded into economics. Today American industry employs more economists than the colleges and universities employ, and they pay them more money.

Finally the training programs moved into astronomy, history, the humanities, fine arts and many other strange fields. There are elementary courses, middle level courses and extremely advanced courses, including some post Ph. D. courses.

Thousands of courses are offered and hundreds of thousands of workers are continuing their training at all times.

In the book that Mr. Sloan and I wrote about Classroom in the Factory, there is a long list of courses taught in four companies for the workers.

PARTIAL LIST OF COURSES OFFERED BY FOUR COMPANIES

AVOCATIONAL SUBJECTS

Ceramics
Charcoal Sketching
Current Events

BUSINESS MACHINES

Accounting Machine Applications
Accounting Machine Practice
Analog Computer Techniques
Application of Digital Computers to Engineering and Industry

COMMUNICATION

Communication in Business and Industry
Communications
Employees Communication Practice

ECONOMICS

Economics for Everybody
Industrial Economics
Investment Principles

ELEMENTARY-SCHOOL SUBJECTS

Arithmetic
Reading
Writing

ENGINEERING--AERONAUTICAL

Advanced Aircraft Performance
Advanced Gas Dynamics
Advanced Propulsion
Advanced Stability and Control
Aerodynamic Flight Testing
Aerodynamics
Aircraft Flutter and Transient Loads
Analytical Methods for New Design

ENGINEERING--ELECTRICAL

Laplace Transform Methods for Electronic Engineers
Magnetic Core Circuits
Oscilloscope Applications

ENGINEERING--MECHANICAL

Plastics Engineering
Principles of Machine Shop Practice
Principles of Mechanical Design
Production Illustration

HIGH-SCHOOL SUBJECTS

Basic Mathematics
Biology
English

HUMAN RELATIONS AND PSYCHOLOGY

Basic Psychology for Supervisors
Business Psychology
Creative Thinking

MANAGERIAL AND SUPERVISORY

Controls
  Control of Labor Costs
  Cost Accounting
  Cost Estimating
  Cost Improvement

MANUFACTURING AND PRODUCTION

Sheet Metal Planning
Shop Applications of Mathematics
Slide Rule Practice
Statistical Quality Control
Stores Operation

RESEARCH

Research Problems
Research Symposium

SALES SUBJECTS

Marine Sales
Marketing Analysis

Market Research
Marketing Engineering
More Results Methods

MILITARY

Out of the 900 largest fields in the skilled trade and technical areas, the military trains for more than 800.

In some highly important civilian fields persons trained in the military provide most of the highly skilled personnel. In aviation probably 80 to 90 percent of all highly technical personnel is trained in the military. Some estimates in the field of electronics have been as high as 50 percent.

On motor maintenance some of the training is probably as good as any in the country.

Training is provided at all levels of jobs from the lowest to the highest. The army management school has a high fraction of generals as students. It has become customary to have a school between each promotion. In other words, the training is continuous through the entire working life.

35,000 SPECIALTY SCHOOLS

In any very large city in the United States there will be hundreds of these specialty schools. They train for a very wide range of occupations.

On any one day there will probably be a 1,000,000 people studying in the clerical fields alone. Beauty schools, barber schools are well known. There are schools for baseball umpires, for moving packers, for long distance truck drivers, for crane operators, and many hundreds of others.

Some of these schools are superbly managed and place close to 100 percent of their graduates in good jobs.

What do these schools teach us? They stay very close to the demands of the field--they have to. They will also try anything if it will speed up training.

CLASSROOMS ON MAIN STREET

TYPICAL COURSES OFFERED BY 1-YEAR AND 2-YEAR BUSINESS SCHOOLS, JUNIOR COLLEGES OF BUSINESS, AND SPECIALIZED SCHOOLS

Accounting
Advertising
Air-freight transportation
Airline operations
American government
American literature and the novel
Art appreciation
Art for contemporary living
Auditing

TYPICAL COURSES OFFERED BY SCHOOLS TRAINING IN SELECTED INDUSTRIES

Basic and advanced interior design
Bleaching, bluing, and soaps
Blueprint reading
Bonds and mortgages
Building finance

TYPICAL COURSES OFFERED BY SPECIALTY SCHOOLS PREPARING FOR SKILLED TRADES

Carpentry
Circuit analysis
Cleaning watches
Comprehensive plumbing
Cooling units, types of
Cotton classing and buying
Crawler-tractor operation

Custom furniture upholstering
Cutting and welding, above and below water

TYPICAL COURSES OFFERED BY SPECIALTY SCHOOLS PREPARING FOR SEMI-PROFESSIONAL OCCUPATIONS

Fashion display
Fashion history
Fashion photography
Fashion reporting
Fashion in radio and television
Fashion survey
Fiction illustration
Flight computer
Flight navigation
Floral merchandising
Floriculture
Funeral arrangements and direction
Furniture arrangement

TYPICAL COURSES OFFERED BY SPECIALTY SCHOOLS PREPARING FOR PERSONAL AND PROTECTIVE-SERVICE OCCUPATIONS

Haircutting (men, women, children)
Hair dyeing, bleaching, and tinting
Hairstyling
Handling of bar utensils and glassware
Hematology
Hygiene for barbers

TYPICAL COURSES OFFERED BY SPECIALTY SCHOOLS TEACHING RECREATIONAL ACTIVITIES

Management of personal time
Memory training
Metalwork and jewelry
Motorboat engine maintenance
Music (accordion, banjo, clarinet, drums, guitar, mandolin, organ, organ, piano, saxophone, trumpet)
Sailing
Sculpture, ceramics
Sewing for adults
Silk screening
Snow skiing
Swimming

What has been learned from these studies for the teacher? You know a lot more about the problems of the teachers than I do. However, let me make a few suggestions.

1. Industry and the military seemingly will try about anything if it will improve the efficiency of teaching.
2. The vocational teacher may well be the most open-minded teacher in the regular school system, but I do not think he is as willing to try new things as his counter-part in industry or the military.
3. I wonder if the resources of the community, outside of the school are being used to the optimum by the vocational teacher.
4. There is far greater use in industry and the military of models, charts, scrambled books, programmed material, computer assisted learning and many other devices than in the regular school.

   As one illustration, DuPont found in teaching certain skills that programmed material produced 13 percent higher skill on the job and did the training in 25 percent less time.

   This was found out after teaching large numbers of workers by conventional methods and other groups by programmed material. DuPont spent $2,000,000 on the effort to determine which was the more efficient way to teach the skills. Someone will say give me $2,000,000 and I will try new things, but I don't think that is the answer. Any teacher who wants to can try something new and different.
5. Rapid technical changes mean that the worker has to go on learning new skills and new ways of doing the old ones. This means that the vocational teacher is not only trying to teach the worker new skills, but is also trying to get him to the point that he can teach himself.

In the kindergarten, the teacher reads to the children. As soon as possible, the school trys to get the child to the point that he can read for himself and learn by himself. All too often, from then on, any real effort stops, in trying to get the student to do more and more for himself. The textbook is part of the cause, for it is almost impossible for the average student to learn from the text without the teacher doing a lot of explaining.

This is one of the great advantages of a programmed book. If the material is well done, there should be no gaps. All explanations should be included in the book, and the steps should be so small that the student can take them by himself. This is the reason that every vocational student should use some programmed material so that the student will get used to it. The student should have enough practice in learning by himself that he can and will go on doing it all his working life.

1 What do the studies mean for vocational education?

1. They mean that vocational education has become one of the most important activities of the American people and that it is going to become a whole lot more important.
2. They mean that unless you have adequate vocational education for a job, you are not likely to get a job, or to hold one if you get one.
3. They mean that adequate vocational education is necessary at all levels of the work force from the lowest to the highest.
4. They mean that vocational education must continue throughout the working life.
5. They mean that the tasks of vocational education have become so great that we can't get them done as well as we would like them done. This is true regardless of the number of organizations trying to help do part of the job.
6. Some group must try to look at the whole job to see that everybody is trained. Somebody must look at all the work that needs to be done, and at all the workers. Somebody must see that all the workers have the skills to do all work at a continually higher level of skill. This is the surest way to get a rapidly rising standard of living for any society. Your group may well be the group to see that this task is done. This may well be the most important thing we have learned from our studies of the variety of training programs in the U. S.
7. The key to the poverty program in the U. S. probably lies more in vocational education broadly conceived than in any other thing.
8. Vocational education has become so important that massive programs are carried on by business and industry, by the military and by 35,000 specialty schools.

The more knowledge that is discovered the more there is to be discovered. The more general education that is provided the more that is needed. The more vocational education that is provided the more that is needed. This is the meaning of our studies.

THE ROLE AND STATUS OF VOCATIONAL-TECHNICAL EDUCATION
EXCERPTS FROM SPEECH

Alice Widener*

Once upon a time, about 120 years ago, there was a man with a vision--that education belonged to all of the people, not the rich, not the influential, not just to men, but to everyone in the United States. He changed the face of America; his name was Jonathan B. Turner. Had it not been for his vision, higher education in America would not necessarily belong to the people; it would belong to a very small percentage of men, almost no women. Turner gave this same speech over and over for a period of ten years: he was responsible for the Morrill Land Grant Act.

In 1862 Abraham Lincoln signed the Land Grant Colleges Act and he emancipated America. If it had not been for the Land Grant Colleges we would not have the fine agricultural system we have today, and we would not be a "land of abundance." These were the so called "poor boy colleges" and isn't it funny that M.I.T. was one of them?

Today, we are in need of one great speech: we must have one great speech, because today the United States is in the exact same predicament that it was in in 1862. At that time higher education was out of kilter with the nation's needs and today, the secondary schools of the United States of America, in my judgment, are out of kilter with the nation's needs, with the progress of the nation, and with the social situation of the nation.

In this present situation in which we find ourselves, the United States is not unique. Every advanced nation on the face of the globe is now faced with precisely the same problem as our country faces. The overall picture is just the same. The same cult of intellectual snobbery, the same narrow minded short sighted people are throttling the educational system that were throttling the educational system 105 years ago.

It is not the function of the historian to be the prosecutor of the past. Those in this country who are fomenting unrest are doing this, they are prosecuting the past. The United States is not alone in this. The situation is similar in many of the developing nations--the migration of agricultural workers and the subsequent language problems. The farmers of France and the Bretons and they cannot speak French, the Sicilians of Italy cannot speak Italian, and the Negroes of the south cannot speak the industrial language of the north in the United States. The problem is a common one shared by all nations--and the language barrier is a serious handicap.

There is an educational conflict in this country totally out of focus with reality. As many of you know, if John or Mary don't want to go to college they are considered ready for the junk heap. Thousands of ads in newspapers and magazines, being paid for by Insurance Companies, state "Insure your child's future with a college education." How do you know that this infant in the cradle is going to want to go on to college? Is there no future in America for this child if he or she doesn't want to go on to college? Of course, we want the most educated talented people we can possibly have in this country--we want doctors, lawyers, teachers, etc.--we must have them, but we have to knock down this cult, this myth that every child is a potential lawyer, doctor, teacher: college material. This is unfair; this is unrealistic. Of course, every child regardless of race, color, creed or financial background should have the opportunity to go on to college if that is what he or she wants, but what has this got to do with the present situation?

Today, the public school system is geared throughout this great nation to academic, not vocational education. When, of the 30 percent who do go on to college only about one-half make it, does this make sense? Of course, you ladies and gentlemen know that it doesn't make sense at all, and you know that it is largely responsible for the drop-outs and the juvenile delinquents, etc.

I would like to bring out the fact that you ladies and gentlemen are being unnecessarily cut off because of intellectual snobbery.

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*Alice Widener is Author, Publisher, Columnist for the U. S. A. Syndicate, Publisher of U. S. A. Magazine.

How many of you have been told about the great school in Belgium based on Tourism? CERTA: this is the most prized school in the world. And, if you think we have problems let me tell you just a little bit about the problems that affected this school.

In 1945 little Belgium was liberated from four years of enslavement, and left with 150,000 children whose families had simply disappeared--they did not know whether their mothers and fathers were alive or dead. When you asked their names they said "John" or "Mary"--John or Mary who?--they did not know: just John or Mary. In addition, there was another 150,000 orphans, with names, but no fathers or mothers living because of the war.

A great philanthropist wanted to do something for Belgium--possibly a war memorial--but in talking with the Belgians and learning of the plight of these children gave his consent to establishment of a training school. And ladies and gentlemen there is no finer school anywhere in the world today; it is based on vocational training and they have a waiting list of between five and six thousand--and it may become the greatest snob school in the world for the richest and most influential people in the country want their children enrolled there. There has never been an American student because they cannot even handle their European applicants.

We, in this country are concerned with the "balance of payments" and the outward flow of gold. Yet, we do nothing about Tourism--and do you realize that in France Tourism is a multi-million dollar industry. Tourism in France, Spain and Greece is big business, and they are trained for it. They are trained in school and in-service on the job. In this country to serve others, wait on others, is considered menial. In the name of God, what is menial about serving others?

The great CERTA school in Belgium was originally based on Tourism!

Why aren't boys and girls of 18, 19 and 20 equipped, in this country, to hold jobs paying good wages? Let me say right now, that the JOB CORPS is nothing but a correction institute for a set-up that shouldn't even exist.

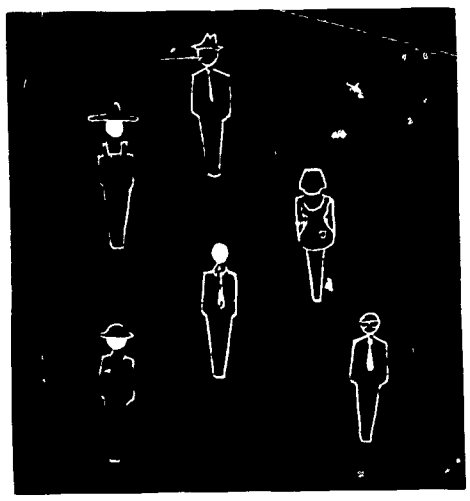
I recently saw an advertisement in the Help Wanted column that stated "more and more women are going back to work--even in menial jobs." They wanted to hire a nurses aide. I wanted to cut out the ad and send it back to the advertiser and ask him if he was out of his skull? What is menial about an aide giving a patient a bed pan or a glass of water? What is menial about scrubbing a floor? My present lawyer, a Negro, scrubbed floors in a hospital for six years to pay for his education. We have to wipe that word out (menial) along with the snobbery that goes with it.

One of the biggest problems we have (the group most opposed to vocational-technical education) is big labor. Some of the big labor leaders have said: "Vocational-technical education makes a class-structured society." They are thinking perhaps of the type of vocational-technical education that existed say 75-80 years ago.

I had an opportunity to visit Camp Kilmer and Mahoning Valley Institutes. In talking to the boys they said: "I need me some pocket money to help out my family." "Man, I got done out in the second grade. I put down the wrong answer and the teacher marked it correct--I knew she was cheating me, and I hated the teacher and I hated the school." I understand the drop-outs, the misfits, I understand their feelings because if they don't go on to college they have no place.

Talk about equality--taking most of the boys and girls and getting them through high school, then telling them they are out is not educational equality. If you get into higher education and you can't make it, you're out.

I have some suggestions for you dear people. You need one great speech; you need another Jonathan Turner; you need to do for elementary-secondary education what the Morrill Act did for higher education; you need courage (If you can't stand the heat get out of the kitchen). You will need all of the courage you can possibly muster. You need to eliminate the "vocational-technical" and use something they understand. You need something meaningful to these people--like "Pay Check Education." And you need publicity: you need to be put on the map. You are coming into a revolutionary period where the future of this nation may depend on you, and you need all the publicity that you can get.



EMERGING APPROACHES IN THE PROFESSIONAL EDUCATION OF VOCATIONAL-TECHNICAL TEACHERS

EMERGING APPROACHES IN THE PROFESSIONAL EDUCATION OF VOCATIONAL-TECHNICAL TEACHERS

Laurence D. Haskew*

The education of teachers has shared in the urgent movement to reconstitute American education which this country has undertaken in the past decade, and which continues at near fever heat. When we Americans spawn a movement of this character we do it on a free-wheeling, highly disparate and widely disseminated basis. Few participants are willing to await the evolution of orderly, cumulative attacks guided by a comprehensive rationale--although several such candidate enterprises are usually mounted. The net results are a tremendous amount of activity, a rather large volume of findings and successes on exceedingly narrow scale, a few programmatic refinements which are adopted widely enough to be called emergent, and an unmistakeable situation of flux without too much indication of what the flux is headed toward, if anything. This is the scene from which the present paper attempts to extract some of what may be emerging in teacher education that will be of value to this seminar.

Of first moment, in the opinion of this observer, is the increasing prevalence of, and successes in, what I shall call spot preparation. This begins with a teaching spot to be filled by relatively large numbers of people on short notice. For examples, in adult basic education or in junior high school programs in earth sciences or in motivation counseling for the ghetto child. The spot does not necessarily have to be a new one, but its emergency or semi-emergency cruciality is new. To meet the need properly-prepared persons are not available, but the positions are made attractive enough to enable recruitment of a cadre of people willing to essay the assignment. Some of the recruits are from education. Often, many are from outside. The variations in on-surface fitness for the assignment are tremendous; observers frequently wonder whether anyone was screened out, although often many were. For these sometimes motley but usually dedicated crews, intensive and typically very short-term training enterprises are put together. "Put together" is a deliberate designation here. As the enterprise is repeated, more careful and thoughted design of what is offered begins to appear, but improvisation is the initial rule in most instances. The recruits go through the spot training and enter upon the job they were trained to do. We have relatively little evidence upon how well they perform their assignments when measured against defensible criteria of achievement. We have ample evidence that judged in about the same way most teachers are judged, in great preponderance they are deemed to be successful by their employers.

Now, one is well aware that such spot preparation is viewed typically as a necessary, but temporary, return to the primeval in the education of professional teachers. That conclusion is open to serious question, as will be shown later, but even if it were true any analysis of what is emergent in teacher education currently must include witness to the vitality of spot preparation as a strategy. Therefore, some further look at its fitness and potential seems to be in order.

The appearance of "new" occupational demands upon the teaching profession is far from ended it appears. In fact, new demands may outnumber and outweigh old demands. Some of these new demands can be foreseen and time-spaced, comprehensive, and well-designed programs formulated to meet them. But teacher education has always had difficulty in recruiting young students to pursue such programs with vigor in the absence of demonstrable opportunity to engage in the work forecast as desirable. Spot preparation has all the motivation of immediacy and already-made decisions going for it. However, the chief point in its favor is that it fits the picture of teaching which is emerging--a picture of constant renewal, of perpetual refurbishing to meet recurring change in the shape of education itself. Also, it must be noted that spot

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preparation has been about as successful as traditional collegiate education in blending subject-matter reconstitution with methods of instruction designed to accommodate the basic objectives of such reconstitution. Further, many of those who have made initial entry upon the teaching profession through spot preparation enterprises are continuing their professional education, while previously-experienced teachers are following up on spot preparation in a new field in significant proportions. And, the procedures one witnesses in many spot preparation programs are far from primeval. Simulations, immersions in the real thing, employment of individualized education of the teacher as teacher, and many other modern devices are used extensively--with encouraging evidences that we may have only scratched the surface of what is possible in an intensive, highly-motivated experience for those who know they stand on a threshold.

A second prominent focus in teacher education developments is upon projection of the traditional initial preparation period into the workday world of teachers. The internship is the most common artifact of such projection, but other manifestations may have more significance. The basic yeast at work here is not so much the idea of providing an increased amount of supervised practice before the neophyte is turned oose by his preparing institution. Instead, it is the attempt to exploit more fully the educative advantages of alternation between periods of involvement, periods of diagnostic assessment of that involvement, study motivated by needs revealed in involvement, and then still more involvement. The formalities of fifth-year programs, official internships, and certification requirements have served to obscure, and perhaps in some cases to erode, this basic mutation but its outworkings are having growing impact upon the shape and nature of initial preparation for teaching.

This type of projection, by the way, has been hastened, and to increasing degree shaped, by entrance of the organized teaching profession itself into vigorous concern with influencing the nature of portal readiness for that profession. The forward projection of professionalization into years and into types of learning experience customarily devoted to on-the-job experience is calling upon teachers themselves--often under primary guidance by their profession and/or their employers--to assume new teamwork relationships with collegiate personnel, as well as to develop competences long assumed to be the prerogatives of the professor.

As one prepares a paper upon teacher education with obligation to make its content pertinent to those primarily interested in teachers for vocational and technical education, one perplexing challenge continues to arise. That challenge comes from knowledge that the pre-service sources for large numbers of teachers in vocational and technical fields have been different from the sources for most other teachers. Further, the controlling influences upon the shape and nature of preparatory, and to large degree in-service, education for these teachers have stood somewhat apart from those exercising direction for the great bulk of teacher education. Therefore, my third comment upon developments in teacher education is to report, in effect, a non-development. This particular observer can see few signs that what is generically applicable to all categories of education suitable for staffing vocational and technical education. Even those vocational education teaching specializations traditionally provided by collegiate courses terminating in baccalaureate degrees are showing few signs of gravitating toward the norms for other teacher education programs in the same institutions. The roles of collegiate study and academic credit in the readying of teachers to serve in the manifold other old and new varieties of vocational and technical education are still matters of debate, and of repeated special dispensations to overcome the restrictive impacts of general regulations. In short, practice seems to indicate that teacher education when modified by vocational and technical is a special case.

Yet, it may not be of such specialty it can be oblivious of certain powerful trends evidently running in the world of teacher education. One of these, already mentioned, is the growing concern of the organized teaching profession with who bears licensure as a member of that profession. While this concern is not likely to result in uniformity of preparation programs, it does head inevitably toward standardization of expectations. A second trend is toward attaching greater and greater moment to academic credit as essential undergirding for everyone who teaches. Then, there is an increasingly pervasive mood of intellectual orientation as the sine qua non of professional preparation for educational endeavor. And, no occupation which expects to recruit appreciable numbers of young entrants in the next decade can ignore the fact that most potential recruits are going to be enrolled or seeking enrollment in institutions of higher education--and hence subject to the reputation a given field bears in that environment. Citation of these trends is not to imply that the special-case character of teacher education for vocational and technical education should or is about to vanish, but to propose that what follows in this paper may be more pertinent in the future than it has been in the past.

The fourth development to which I wish to direct attention is the vigorous thrust of the academic in teacher education. This takes several forms.

One is quantitative escalation in requirements for undergirdings in the academic disciplines for the prospective teacher. Evidence of this abounds in certification and in degree regulations, in lengthened time periods required for completion of approved programs, and in the constriction of credit hour allocations to education courses. Pressures to further increase the content-coverage of initial preparatory programs continue strong. Also resulting are changes in the course patterns for graduate degrees.

Another form is emphasis upon higher standards for marks and upon attainment of elevated marks in courses by those expecting to teach. A third form shows up particularly in the courses in education where contributions of content from the academic disciplines are featured and where an emphasis upon intellectual constructs is markedly replacing the former devotion to cultivation of practitioner skills. Running throughout teacher education currently is a model of toughness which is supposed to represent jointure with the academic world, and such jointure is deemed essential.

However, the most significant manifestation of the academic appears through the aroused interest of some academicians in the field of teacher education. Various learned societies have become markedly preoccupied at the national level with the shape and content of education for teachers. Following the lead of earlier projects sponsored by the National Science Foundation, they have undertaken special efforts and offerings to educate or to re-equip teachers--in the process becoming tangibly concerned with what should be taught vis a vis their disciplines in elementary and high schools. This interest of learned societies has sparked multitudinous awakenings on institutional campuses. Also, those directing teacher education on the local campus have reached out increasingly to involve the subject matter disciplines in the design and execution of local programs, in some instances with marked success. The American Association of Colleges for Teacher Education and the National Council for Accreditation of Teacher Education have made almost a fetish of "all-college participation in the design and execution of teacher education." As is common in movements of this kind, many of the actual responses in teacher education programs appear to be chiefly mechanical or symbolic. But there is an ever-widening core of genuine and significant change being wrought in the strength of the disciplinary motif in teacher education.

However, a balancing emergence is now making its appearance. Emphasis upon the academic in teacher education has been, of course, an extension of what was occurring in the school and college programs of America. Many have been viewing that pendulum swing with considerable trepidation, fearing that ascendancy of the disciplines was being secured at the expense of two other vital concerns. One of these is that individuals in the schools should learn, and learn much more than cognitive command of the disciplines of human knowledge. The other is that the school should deal both directly and indirectly with the society-produced imperatives of our time. Within the very recent past, these concerns have come upon recycle into the educational scene, and the fifth development I choose for attention is the response of teacher education to the growing ascendancy of these concerns.

Attention to learning was made viable and "the modern thing to do" by technological developments which captured the imagination of influential Americans and sparked the entrance of major industry into the educative enterprise. But this would not have been sufficient if there had not existed, chiefly in the circles of professionals engaged in the education of teachers, a great desire to see that education become individualized and individualized learning become successful. They joined hands with the technolcgists--in fact, became technologists themselves--to exploit the application of invention and inventiveness to the problems of learning by pupils. The resulting story of hardware and software is a saga, still incomplete, too complex to treat here. The point is not alone that teacher education is preoccupied today as never before with conveying to students command of all sorts of technological aids to learning. More important are the emerging signs that this attention, coupled with the school-mandated devotion to a hundred varieties of "special" education, is making the child and his learning once more a center of emphasis in teacher education.

Renewed attention to society-produced imperatives was sparked chiefly by educators immersed in the desperation of large cities, and the spark was fanned into flame by powerful government and private foundation programs aimed at the melioration of disadvantagement of Americans. These programs called upon teacher educating institutions to produce many varieties of spot training endeavors wherein social setting loomed with high visibility. But the perplexities of education in the urban setting have produced much wider responses than these in programs for teacher education. The rise of new endeavors to equip teachers to deal with the disadvantaged child and

of programmatic changes to elucidate for teachers the nature of urban life has been little short of phenomenal in the last five years. As a consequence, we find a rebirth of generalized concern with the problems of society in the circles where curricula for teacher education are formulated and executed.

The significance of this twin development for teacher education in vocational and technical education should not be overlooked. What we see here is emergence once more of universal meanings for what is involved in being a teacher, regardless of position and regardless of specialization. To the extent that vocational education becomes part of America's common school, presumably it must shoulder its share of the comprehensive obligations of that school. Its teachers must, I believe, be capable of making unified cause with all teachers. Education for some teachers in vocational education, therefore, should become preparation for dealing constructively and generically with the learning of youngsters and with the imperatives of life in American society.

So far, the word "innovations" has not appeared in this paper. Yet those who requested its preparation asked that I address myself particularly to new departures in teacher-educating procedures which might afford clues to those addressing the problems before this seminar. Quite frankly, I am not enough of an historian to risk applying that word "new" to any approach or procedure. Instead, let us title this sixth development as the emergence of promising procedures for developing professionalized competence. Of great appeal is the one developed by Professor Robert N. Bush and colleagues dubbed "mini-teaching." A student executes, after preparation, a small segment of a teaching act in a live situation. This is videotaped, and the videotaped performance is then analyzed in depth by the student, his colleagues, and the instructor. It is in the analysis and the techniques of securing feed-outs from this fleeting experience that the genius of the procedure arises--which lies in making the experience one of continuous self-tutelage and practice as well as a parable of more complex endeavors. If space permitted, I could cite forty or fifty other employments of a similar procedure, some of which have produced evidence of efficacy with experienced teachers as well as with novitiates. Then, we have reports of significant success with procedures based upon students doing research-type analyses of apparently very restricted aspects of teacher behavior. The work of Professor Ned Flanders and colleagues directed at the questions teachers ask is a well-known illustration, but there are many others. Here we have a highly sophisticated complete methodology of proceeding from the concrete to the general, with reinforcement by behaviors undertaken by the students themselves. These two approaches, as well as several others, exploit the values inherent in the observation of recorded behaviors as contrasted with alive-and-then-talked-about performances. Then, almost everything that is being attempted to exploit the visual and auditory media in school, classrooms, is also being attempted in education classes in colleges and graduate schools. While we have many reports of novel attempts to afford face-to-face encounters between students and the real world which is teaching in its broader definition, there seems to be a diminishing confidence in the efficiency of sheer experience as a vehicle for constructive learning. Thus we witness increasing skepticism about the inviolability of the "student teaching experience" which consumes such a large proportion of the time and energy allotted to the undergraduate professional sequence. Many forays at substituting simulation, recorded situations, role-playing, and demonstrations are occurring, but with no definitive comparative results known to this author. In the literature one finds a few references to employment of independent study, programmed texts (or similar self-sufficient materials), and individualized-task procedures in college classes. Also found are many more portrayals of so-called bold plans to base professional education for teachers upon the information storage and retrieval syndrome. Also, the promise of applying computer-assisted instruction to teacher education is held to be high. With no sense of negativism intended, we must report that these prospectively revolutionizing vehicles for instruction are as yet only in the test and development stage and it would be misleading to report them as new departures in the education of teachers in the present decade. In the software echelon must be reported the many refinements of the old procedure of educating experienced teachers through group attacks upon very real and lively problems, with a deadline just ahead. And, strangely enough, the fact-giving lecture replete with the visual and dramatic aids provided by new media is a favorite "modern" procedure. Surely all must realize how sketchy the foregoing treatment has been, of necessity and of ignorance, in portraying what is really a scene of surprisingly widespread inventiveness in colleges and universities attempting to educate teachers. While no new gadget with a widespread acceptance similar to that accorded to practice teaching a few decades ago is visible as the result of this inventiveness, t field of gadgetry is hardly fallow.

The seventh development will be depicted very tersely. What used to be called inservice education is sprawled all over the teacher education front. Literally everybody is getting into the act. The variety of procedures and the multiplicity

of packaging defies description. The significance here, however, lies only incidentally in the procedures and approaches employed. What we really see is perhaps inescapable random and frenetic behavior as we enter, without too much conceptual readiness, a new meaning of education for teaching. Getting educated for teaching, from here on out, is predominantly what teachers do after they get jobs, not before. There is no termination point. Hence, teacher education becomes preponderantly focused upon the constant, cooperative endeavor with practicing teachers to keep up with the professional tasks they confront. Those meager four or five years when students are earning baccalaureate degrees compose already only a prelude period. Teacher education of the future, one would judge, will find its primary engagement in the forty years after the prelude is completed.

Frankly, the emergence chosen to conclude this paper is much more a hope than a tangible development. To educators involved in vocational education it should bring some degree of pride because it deals with the application of systems theory to the education of teachers. So far as I know, vocational education made the first comprehensive and consistent application of systems approach to the design and execution of instruction in this country. Of primeval nature when compared with modern sophistication in systems theory, these a priori basic elements of design wrought a rather remarkable story of success in vocational training, but somehow never got much of a trial in collegiate varieties of vocational teacher education. Now, particularly within the very recent past, we are witnessing a great display of interest within the confines of teacher education directed toward applications of systems theory to the ordering of college curricula for the initial preparation of teachers. This is a natural outgrowth of research going forward toward the elucidation of learning systems. So far, the tangible attempts have rested upon disparate theories of the instructional process and have addressed themselves chiefly to restricted portions of the total. But the emergence of conceptualization of instruction as a system rather than as a series of acts or an undefinable outpouring of artistry is increasingly discernible. Of course, we still search for an overarching theory to guide and test the design of systems. Several individual efforts to propose and test such theory have been made--notably illustrative are the ones of Professor B. O. Smith and the one of Hilda Taba. One outstanding and highly cogent group product has emerged. This is the formulation of an AACTE study titled as if it were preoccupied with instructional media. Actually what resulted with the leadership of Herbert LaGrone was a theory of what needfully enters into the education of a teacher and how these elements interact to compose a productive system. Impact of this study is apparently quite widespread and chief among those impacts is stimulation of systems design within teacher educating institutions. Perhaps the connection between systems theory and the real world of educating literally millions of people in tens of thousands of enterprises to be teachers is too tenuous and esoteric to bear the label of a bright hope of the future. But the possibility of making such connection is perhaps as good a note as any upon which to conclude this paper.

TRENDS AND PROBLEMS IN THE PROFESSIONAL EDUCATION OF VOCATIONAL-TECHNICAL TEACHERS

Herbert A. Tonne*

The Vocational Education Act of 1963 had a significant influence on vocational teacher education. Here are some trends and problems that have developed as a consequence of the Act and from the conditions which encouraged the passage of the Act.

1. There is no stronger tendency towards dogmatism now than there has been in the past, but it is persistent.

Note for example that even the head-counting process of the Census of 1960 is now estimated by some to have been 5,700,000 people short. It is not easy to count the people in the United States, but it is relatively simple compared to the more complicated elements involved in the determinations of data for education.

We do not know in detail the number of unemployed. We usually do not clearly define what we mean by unemployed. Therefore, there may be fewer unemployed or there may be more functionally unemployed depending on how we secure data. How many jobs could be filled if people really were willing to fill them and did not have government financial aid? Would we want the unemployed to take any job regardless of salary?

We do not know the degree of difficulty in training for specific and particularly lower level jobs because of increased tendencies towards automation. Can people be well trained on the job, and if so how long will it take? What is the relative cost of job training on the job as compared to school training? To what extent is the failure of youths to get jobs that seem to be available at least caused by lack of skill? To what extent is it prejudice on the part of the employer which would not be solved by skilled training? To what extent are poor work attitudes on the part of employees a cause of unemployment? Would skilled work training help and in what manner?

2. The old-time vocational teacher got his training in a normal school, and then took some summer school training in industry; he is a vanishing phenomenon.

This old-time vocational teacher was more definitely a practical arts teacher rather than a vocational teacher. But many people did secure entrance to employment because of the marginal vocational values of the work that they took with such teachers. He is being replaced by graduates of four-year schools, and by people coming in to teaching directly from industry. The present teacher often is a four-year graduate of a variety of programs and he usually did not specialize in vocational education. He therefore did not take a sequence of professional education courses to fit into the teacher certification pattern.

3. Even the supply of prospective four-year occupational teachers is dwindling.

This trend is true especially for men. The four-year colleges are setting up higher and higher academic standards. The result is that the kinds of people who typically became vocational teachers do not get a chance to go to college or if they do go they are inclined because of the emphasis on the academic, so effectively presented by Dr. Haskew, to be side-tracked to cultural courses. Colleges, as Dr. Haskew pointed out, are becoming tougher and they are eliminating those students who are inclined to be less interested in sheer academic success. Yet those who are dropped are often the ones who would be the most likely to be successful occupational teachers.

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The problem is not as acute in the larger cities because the place of the pre-service trained occupational teacher is being taken by men and women who have had several, and in many cases, many years of job experience. They may find the problems of securing promotion trying. The uncertainties of work in private industry cause them doubts. They are increasingly concerned about the social value of their work, and possibly most important, they recognize that increased income or its possibility in the future is not a predominant value for them. In those large urban areas where the salaries are adequate and where experienced workers are given advanced placement of the salary scale, and where it is thus possible for the experienced worker to transfer to education, the demand usually can be met. In many cases these teachers are more adequate than those receiving pre-service training supplied by the four-year college.

However, such men and women, as a general rule, are not interested in going to the smaller community. This tendency has drastically accentuated the problem of securing good vocational teachers in the smaller and rural type areas of communities. It is quite possible that the short supply of four-year college vocational education teachers and the unwillingness of the experienced urban person to become teachers in smaller communities, will make it necessary to accentuate the trend of vocational education away from the secondary school and toward the area vocational school. More efficient use can be made of the teacher, and the school is likely to be in an area more congenial to the person from an urban area.

4. There is a tendency for the junior college to become more academic and less interested in vocational work.

When the junior college began to become a frequent institution, after World War II, its emphasis was strongly upon terminal education. Now increasingly this school tends to give its major efforts to transfer education. Courses are being more and more influenced by what is acceptable at the four-year level. The drop-out rate in junior colleges is high, and unfortunately, the tendency for the terminal school students to drop out is greater than for those who have academic interests. The result is that junior college graduates are interested in transfer training. Some who take transfer curriculums do not go to senior college and enter industry, but many more who have taken terminal programs seek and secure entrance into some college.

In many areas, the junior colleges are still strongly directed towards terminal occupational education as their primary goal. This, however, is becoming less usual. This tendency is making it increasingly important for vocational area schools to develop, to take the place of the junior college, to the extent to which it is not meeting the demands for occupational education.

5. Awareness of and concern for unemployment among the disadvantaged and expecially among disadvantaged youth is probably the key trend in current education.

Most of us recognize that much of increased Federal aid for vocational education was provided with the objective in mind of reducing, if not solving the problem of unemployed youth. The problem of unemployment is serious among all youth, but is accentuated among those in racial minorities. The typical old-time normal school practical arts teacher, the four-year college graduate occupational teacher, and even the job-experienced person who goes into teaching usually does not achieve great success as a teacher of under-privileged prospective unemployed youth. Few make the adjustment to these types of students in the core urban centers. They usually carry on ill-equipped to do their job and after a few years find opportunity to shift to suburban types of schools. They do this partly because the salaries are better, but more so because the working conditions are for them more satisfactory. Basically, however, they move because they have a much better understanding of the types of youth they teach in the suburban type of schools and have the capacity to teach them. They question their ability to serve the core urban unemployed youth.

The development of teachers for these disadvantaged youths, especially young men, is crucial to the success of vocational education programs. Vocational education has been anywhere from modestly to dramatically successful in preparing youths with middle-class attitudes for jobs. Where there has been failure to give adequate education to these youths, the shop and the office itself has been quite competent in helping youth make the adjustment. Private industrial and business schools have been very effective with middle-class youth. The junior college has been a stalwart aid in helping such youths secure jobs. But thus far we have been at best only marginally successful in job training for the disadvantaged youth.

Possibly a part of the problem is that these youths do not need the kind of vocational education which we have been giving to youths successfully in the past.

possibly the kinds of jobs that are available to them do not require specific or extensive vocational education. Possibly a further development of fundamental education with occupational orientation is required for these youths. A reorientation of their attitudes toward work is necessary. Whatever the problem may be, possibly a combination of those suggested, the area of most acute need for innovation try-out, and experimentation is in this area. The teacher education institutions, entirely divorced from colleges, might be developed in living areas of the disadvantaged youth in connection with technical schools. In these schools, the prospective teachers would remain in their own communities and still be given the opportunity to develop some of the attitudes of the middle-class worker. Thus they would be able to translate these more effectively for the unemployed youth than the traditional teacher. It is worth a good and honest try. It has considerable potential for success if well planned and carried out.

6. The problem of occupational experience for the vocational educator has not, and is not being solved well in practice for many occupational teachers.

Everybody agrees that the vocational teacher should have good occupational experience. However, the fact is that the usual four-year college in vocational teacher education often has little job experience. Moreover, if we force him to get extensive job experience he often will be lost to teaching. In any case, he faces the problem not only of getting job experience but in many states of securing a fifth-year certification in order to become a permanent teacher. In order to secure an adequate income, he must often do extensive moonlighting. This is particularly true of male teachers. While such moonlighting provides job experience, it is often not the kind of job experience that is required as a phase of teaching preparation. No easy solution is in sight for this dilemma.

The college-oriented vocational teacher educator is reluctant to accept definite job experience requirements for certification. On the other hand, the rigidly job-oriented vocational teacher educator demands job experience, entirely irrelevant to the academic courses that the college may require. A possible solution is two types of certificates. One certificate would be for the teacher in the high school who is responsible for marginal vocational, pre-vocational, orientational vocational types of education and for the kinds of occupational education that involve simple or at least basic skills. Another certificate would be planned for those who undertake what might be called the "real job" subjects. For the pre-vocational teachers, little or no job experience may be required. For the so-called real occupational educator who increasingly is found in the vocational school, substantial minimum of job experience directly associated with the kind of teaching he is doing is of paramount importance.

We have not solved the problem of seeing to it that this job experience of the teacher is directly related to the work he is doing. For example, a teacher of data processing whose experience is limited to wiring may not be a good orientation teacher in the field of data processing. However, we are also loath to demand hands-on experience in all specific types of job subjects being taught. We can become so specific in our requirements that we make it impossible to secure teachers. The attitude, personality, and even the basic education of the teacher may be more important factors than highly specialized job experience in a world in which jobs are changing with dramatic frequency.

7. The systems approach as indicated by Dr. Haskew, is becoming of major interest to all teachers and especially to vocational teachers.

The development of electronic data processing and of programming has made us acutely aware that the process of learning if it is to use these devices must be highly systematized. There must be sequential learning based on an awareness of the objective to be attained in every step of the process. There must be constant feedback to make certain that the objectives for which the program has been organized are attained as a result of the learning process. The development of such sequential learning is difficult and is at best attained in the usual teaching situation in a marginal way. Such patterns while in some ways very efficient also tend to leave out the major marginal learnings which make people successful on the job and certainly successful in life.

Occupational teachers need to become more concerned about using the systems approach and with systemic processes in the teaching. A statement by Dr. Haskew at the close of his presentation is too important not to be repeated. He said "perhaps the connection between systems theory and the real world of educating literally millions of people in tens of thousands of enterprises to be teachers is too tenuous and esoteric to bear the label of a bright hope of the future." However, as Dr. Haskew implies the possibility of making such a connection should be carefully explored and thoroughly tested as one of the best possibilities for improvement in occupational education.

8. The strong emphasis that is being given to the need for specialists in school, in work experience, in occupational guidance, in follow-up, and in placement is very much in order.

It is difficult for the usual classroom teacher to undertake these tasks on a marginal basis regardless of his willingness. Job-school experience activities, which are not very carefully processed and which are not directed so that there is a real relationship between what happens in school and on the job, have little opportunity for success.

9. Terminology is an endless problem for all of us.

Semantic confusions probably cause more disagreements than any other single factor. The complaint against gobbledegook and pedagoguese has been perennial and needs to be emphasized. As vocational educators wisely secure the aid of the sociologist, psychologist, economist, and anthropologist in bringing depth to their analysis of occupational training, they are confronted with new terminologies and with new attempts of developing esoteric meanings out of simple facts. We do need the help of the specialists in the social studies and in statistics. However we must insist that they avoid the jargon of their specialty. We need to develop processes by which the services of these specialists who have much to offer to the vocational teacher are presented in language that can be understood and therefore used in relating our work to all life activities.

THE PURSUIT OF EXCELLENCE IN VOCATIONAL TEACHER PREPARATION

William B. Logan*

The success of vocational education is dependent upon the maximum development and utilization of personnel and the highest degree of cooperation between the vocational disciplines. As a concomitant, this seminar on vocational teacher education is a positive and very significant step in the direction of real unity among all facets of vocational education. Vocational teacher education has the most urgent need for attention of all the task areas of vocational education. Therefore, I wish to congratulate Dr. Robert Taylor, Dr. Neal Vivien, and the Center staff for the interest and foresight they have manifested in vocational teacher education as evidenced by this first seminar devoted to the total vocational-technical teacher education effort.

Teacher education, like all aspects of education today, is experiencing profound changes resulting from basic societal movements. We are all familiar with technological advances in industry and education, the knowledge explosion, in education, the emphasis on equality without sacrificing quality, the great breakthrough in medicine and the terrific pressure from minority groups as they seek a place in the mainstream of American society. All of these societal events have created an impact on professional teacher education. The challenge to vocational teacher education is to formulate and implement philosophies and practices which will provide the necessary leadership for vocational education.

In order to orient vocational teacher education toward new goals and expanded horizons we should first review the major developments in education, particularly vocational education; next, examine their implications for vocational teacher education; and finally, propose innovative and vital approaches for the future.

Initially, we must accept a proper perspective for vocational teacher education. Teacher education must necessarily be performed at all levels in all services. Also, teacher education must prepare people for teaching, supervisory and administrative positions in all the vocational services in order for the total vocational effort to achieve the objectives which must be met.

IMPLICATIONS FOR VOCATIONAL TEACHER EDUCATION

Several significant developments came out of the report of the President's Panel of Consultants on Vocational Education in 1962. Among these was the establishment of future directions for the preparation of vocational teachers.

I would like to mention four significant implications for vocational teacher education which grew out of the Report of the Panel and the Vocational Education Act of 1963. First, there was an emphasis on the individuals to be educated rather than the specific vocational services to provide the education. Second, there was the overriding concern for persons with special needs--those having academic, socio-economic, or other handicaps who are unable to be served by traditional approaches in vocational education. Third, there was a realization of the importance of post secondary vocational education which had to be recognized in the light of requirements of occupations for additional skills beyond the high school. Fourth, there was the specification of five areas of service vital to the total vocational education effort because of the importance of each to teaching and learning. Two of these areas emphasized were teacher education and leadership development. Also included were occupational information and guidance, research, and the development of instructional materials.

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Prior to the report of the Panel vocational education had developed rigid segregated disciplines, with little consideration of the complementary vocational services and with a minimum of communication and interaction between the services. Artificial, but rigid barriers were drawn. Vocational education provided specific training but, in so doing, often neglected the learner in favor of the process.

THE NEED TO UNITE IN VOCATIONAL TEACHER EDUCATION

The growth of teacher education has followed a similar partern. The disciplines became entities in themselves. They were compartmentalized and insulated from each other. As a result there exists today extensive duplication and overlapping of teacher education offerings in the various vocational areas. There has been an unnecessary proliferation of courses in our field.

Recently, a survey was made of course offerings in vocational education in representative institutions offering four or more vocational services. This survey indicated that much duplication exists. Courses in adult education, program supervision, organization and administration, and evaluation are offered simultaneously by several vocational services, often with similar titles and descriptions. On the other hand, few courses are offered in guidance, occupational information, or instructional aids. For example, in six of eleven major universities studied, duplicate courses were offered in adult education and organization and administration; and in five universities, duplicate courses were offered in supervision of vocational programs. Only in three of the eleven schools was guidance or occupational information courses provided as a part of their vocational teacher education curriculums.

In recent years teacher educators have felt pressures to improve the general education of teachers. Thus, in spite of the increasing body of knowledge with which we deal, we find we have less time to provide more educational experiences for prospective teachers.

As a result of the specialization of teacher training programs, limited primarily to inbred training by services, students have learned little of the background, objectives, and philosophies of the other vocational services. In many institutions it is possible for prospective teachers to graduate without every having shared a classroom with their colleagues from the other vocational areas. If we are to achieve real unity, the place and time to begin is in the teacher education institution, when the students are preparing for careers in vocational education. Planned and organized interaction through a curriculum is much more likely to yield success than chance interaction at vocational association meetings after the students have graduated and are engaged in full-time teaching.

Largely as a result of the Panel report the Vocational Education Act of 1963 was passed and the opportunity for long-range growth in vocational education was made a reality. As a result of this Act and the dedication of vocational leaders throughout America, vocational teacher educators have been challenged to work together cooperatively for the improvement of the total vocational field. The emphasis on vocational preparation should be increased. Artificially conceived boundaries should disappear. Unity and comprehensiveness should pervade vocational education.

ATTENTION TO SPECIAL NEEDS GROUPS

One of the groups of individuals singled out for special attention in the Panel report and in the Vocational Education Act of 1963 were persons with special needs. Individuals formerly excluded from occupational training because of some handicap setting them apart from the rest of the working world were given special consideration. It was recognized that in the past many jobs existed for unskilled workers with a minimum of education for whom the quantity and quality of education was not of critical significance. Thus, educators could devote most of their attention to the identification and edification of the academically talented. The lives, occupations, and aspirations of those adversely affected by the process were not of great concern to most educators. The realization of the impact of groups with special needs on the economy and on the integral fiber of the nation, culminated in an increasing emphasis for providing equal educational opportunities for individuals with special needs.

The pressures on society make it mandatory that education endeavor to meet the needs of these individuals. Vocational teacher education must assume the responsibility to individuals with special needs. Our previously narrow pattern of preparation of vocational teachers provided little opportunity for working with this special group. The Vocational Education Act of 1963 has made it clear that occupational training must be available to everyone who needs, wants, and can profit by it. These

new requirements impel vocational educators to meet the special problems of the disadvantaged in our society. To delay changes any longer will create even more undirected youth, unemployable adults, and an economically disabled group of great magnitude.

INCREASED EMPHASIS ON POST HIGH SCHOOL VOCATIONAL EDUCATION

The area of post high school education received special attention by the Panel and also by the Vocational Education Act of 1963. The Panel reported that automation, mechanization, and our advancing technology have increased the demand for highly skilled craftsmen and technicians. Much of this training is not feasible at the high school level.

Area schools, technical institutes and community colleges provide great potential for expansion of vocational education. This is not to suggest however, that such education should be moved out of the high school. The high school will remain the ideal and logical place to begin occupational preparation. Nevertheless, the trend in vocational education today is for increased emphasis on the post high school level.

Consequently, the preparation of instructors for post high school vocational-technical education programs must be given specific attention. It is doubtful whether the same program of preparing high school vocational teachers can be used effectively for those who aspire to teach in the community college or the area technical school. It will be necessary to identify the unique skills and knowledges needed by these teachers and to plan a curriculum accordingly.

The professional preparation of post high school teachers must concern itself with providing all the experiences needed by vocational teachers plus those specific or unique experiences required by the nature of the level of operation. Again, it is the individual needs of the group to be served that should dictate the nature of the preparation.

THE CONCERN FOR LEADERSHIP DEVELOPMENT

The designation of the five areas of service important to teaching and learning in vocational education by the Panel have significant relevance to vocational teacher education. In addition, to teacher education, a vital area for the future of vocational education is leadership development.

A large measure of the phenomenal growth and continued success of vocational education is directly attributable to the strong and able leadership provided by its pioneers. Their courage, wisdom, and foresight have awakened Americans to the values and goals of vocational education.

In the mainstream of this educational awakening, many new opportunities for leadership have been created. It is vital, however, that emerging leaders in vocational education possess qualifications and skills commensurate with increased responsibilities that have resulted from a developing technology and the enactment of needed legislation. A national need exists for educational programs designed specifically for the preparation of vocational supervisors and directors.

Specific job titles of positions requiring leadership personnel include local, regional, and state supervisors and directors of vocational education; supersivors and directors of post high and adult vocational education; and teacher educators. As openings in various supervisory positions occur, it is difficult to locate individuals possessing the breadth of experiences and understandings that are requisite for the jobs. Typically, the pattern of promoting someone to a position of leadership was to take a person from one of the specific vocational service areas. Most often, he was a specialist with little, if any, breadth of understanding of other vocational services.

Furthermore, the traditional programs in higher education are neither appropriate nor adequate for preparing leaders. Consequently the functions and characteristics of leadership need to be examined for their relevance to the prime objective: preparing leaders.

GUIDANCE AND CAREER DEVELOPMENT

The emphasis placed on occupational information and guidance has posed another challenge for teacher education. It is recognized that vocational teachers must be skilled in helping students make occupational choices and must be knowledgeable in patterns of career development. This task is becoming increasingly difficult as the assortment of occupations grows and the variety of skills required for the occupations

become more complex. Vocational teachers must be adequately prepared to direct students to resources which can provide answers to specific questions. They must become familiar with the process of career development. Moreover, the emphasis on individuals rather than occupations presents an additional problem in teacher preparation in this area. The variety of occupations with which the vocational teacher must deal has vastly increased laterally. Hence, their scope of occupational information must be increased accordingly.

INTEREST IN EDUCATIONAL TECHNOLOGY

Instructional materials have in recent years become viable tools in the learning process. The development and production of modern media have pervaded all areas of education. The Panel recommendation that instructional materials laboratories be established for the development and implementation of such materials reflects the understanding that a full utilization of all devices is requisite to the achievement of vocational education objectives. It was noted that development of instructional materials in the past was sporadic and uncoordinated, with the demand far outpacing the supply. Vocational teacher education has been given the responsibility of assisting in the development of materials and integrating them into the teacher education curriculum. Furthermore, of utmost importance is the realization by vocational teacher educators of the opportunities for using modern educational technology directly in programs of vocational teacher education.

RECOMMENDED PROPOSALS

In the light of the developments in vocational education in recent years and their concomitant implications some proposals for new approaches in vocational teacher education are suggested.

Of overriding importance is the need for all areas of vocational teacher education to work together to provide a true vocational teacher or vocational leader as the end product. As a recent Center proposal has urged there is a need to examine present vocational teacher education programs to analyze and synthesize the commonalities and difference in the programs of all services in order that more effective teacher training programs can be developed.

It is recognized that successful teacher education programs will provide the key to the future growth of vocational education. The duplication and proliferation of courses have undermined the total effort. In most cases teacher training institutions offer courses in methods, organization and administration, adult education and coordination techniques in all the vocational areas. This is duplication and proliferation, because there are common grounds. On the other hand, there are unique features concerned with each service and they should not be neglected. Moreover, the duplication of courses does not provide for the most efficient use of scarce, competent personnel, when a broad division of labor could be just as, or even more effective. A final handicap to the vocational education effort arising out of segregated vocational services is the lack of communication between prospective vocational teachers and leaders.

Therefore, I propose that the current curriculum structure in vocational teacher education be studied to determine what broad approaches to curriculum organization would be feasible and to determine what elements are unique to each of the services. The first step necessarily requires the statement of desired outcomes in behavioral terms. This involves determining the characteristics of the end product: the vocational teacher and leader. Moreover, these behaviors must be stated in measurable terms so that empirical evaluation is possible.

This does not mean to imply that all vocational teacher preparation should be done on an across-the-board basis. Through a flexible pattern of operation sufficient time should be allowed to permit depth of specialization in a specific vocational service area. A program of team teaching using specialists from the various vocational service areas might be used to accomplish both objectives--the general understanding and depth in specialization.

Similarly, the organization of leadership training in vocational education must be examined for opportunities for providing a broad approach in leadership development programs.

The challenge of unity is of critical importance in leadership preparation as many supervisory positions cut across traditional vocational disciplines. Therefore, this preparation must consider the duties and responsibilities of the positions that are to be filled and then provide the appropriate professional education experiences.

The emphasis in leadership development should be that of decision-making and problem-solving as these are the important responsibilities of leaders at all levels. As evidenced in non-vocational disciplines, leadership training must extend outside education and into business administration, sociology, and economics.

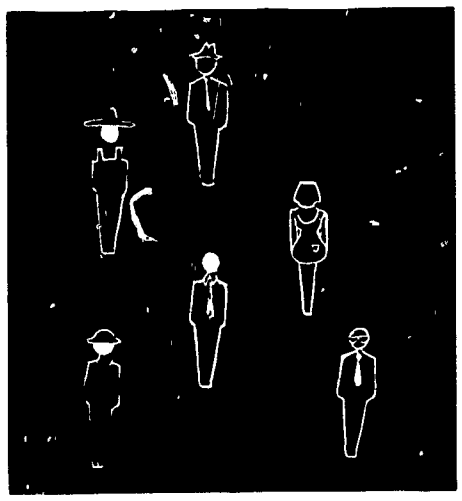
Following such an extensive and cooperative investigative effort I recommend that pilot programs be developed to test the advantages of a unified approach in teacher education and leadership development. The achievements accruing to vocational teacher education from this approach will include a more efficient use of teacher education personnel, a more broadly educated vocational teacher and leader, and more opportunities to explore the effective use of educational technologies.

In a unified approach to vocational teacher education modern training methods may be expected to be more effectively developed and utilized. This will be the result of freeing teacher education personnel to do this task. Many teachers have used such techniques as micro-teaching, team teaching, video-tape simulation, and other technological innovations. These should be studied cooperatively for expanded use in the vocational teacher education program. This will require systematic planning and coordination by the vocational faculty. The use of simulated materials has been undertaken in other disciplines, and in business, and industry with great success. Its adaptation to vocational education could be of great value by bringing reality and practicality to the college classroom and by providing a problem-solving approach in leadership training. Thus, the significant advantage to using educational technology in vocational teacher education is the opportunity to permit more extensive training within the limited time that professional education has been allotted.

Vocational teacher education has been challenged to make specific provisions for occupational guidance, groups with special needs, and post high school programs. All of these areas demand the broad approach in vocational teacher education. Therefore, I propose that the nature and content of occupational information and guidance be studied to determine its relevance to the broad area of vocational education. Next, I suggest that research be undertaken to determine teacher attitudes and interests toward groups with special needs, the adequacy of teacher preparation in this area, and the technology of teaching groups having special needs. Finally, I propose that the unique requirements for teaching post high school vocational education be studied for determining appropriate educational experiences for post high school vocational teachers. All of these recommendations should be implemented through the pilot programs proposed earlier.

The true measure of long-range success in vocational education is the achievement of goals. One important aspect will be the ability of the services to work cooperatively toward common goals. As an integral part of the total effort, vocational teacher education must provide the concrete beginnings toward unification. The duplication and proliferation by individual efforts is wasteful and inefficient.

If there is one dominant theme in vocational education today it is the pursuit of excellence, serving the needs of all without sacrificing quality. Teacher education must continue to play a leading role in this search for excellence. The future of vocational education will be determined, in large measure, by the program of teacher education. You as individual vocational teacher educators will determine how well the challenges will be met. You are shaping the program of vocational education for the future.



VOCATIONAL SERVICE AREA GROUPS: SESSION I

EMERGING APPROACHES IN THE PROFESSIONAL EDUCATION OF VOCATIONAL-TECHNICAL TEACHERS: AREAS OF IMPLICATION

AGRICULTURAL EDUCATION
BUSINESS & OFFICE EDUCATION
DISTRIBUTIVE EDUCATION
HOME ECONOMICS EDUCATION
TECHNICAL EDUCATION
TRADE & INDUSTRIAL EDUCATION

EMERGING APPROACHES TO THE PROFESSIONAL EDUCATION OF TEACHERS OF AGRICULTURAL OCCUPATIONS

Lloyd J. Phipps*

DEFINITIONS AND ASSUMPTIONS

In order to avoid misunderstandings, it should be indicated that the professional education of teachers, as it will be defined in this presentation, includes: 1) methods courses in the teaching of agriculture, 2) student teaching, 3) introductory courses in education and agricultural education, and 4) courses such as principles of education, educational psychology and history and philosophy of education. Also included in professional education will be a consideration of certain new ability needs not at present being included in general education courses, in agriculture and related courses and in the traditionally defined professional courses.

This presentation will be focused on agricultural occupation teachers, teachers educated to prepare persons for gainful employment in all occupations requiring knowledge and skill in agriculture subject matter. It will include teachers of:

1. production agriculture
2. agriculture supply
3. agriculture mechanics
4. agriculture products
5. agriculture resources
6. ornamental horticulture
7. forestry

It will even include teachers of agriculture who prepare persons who need knowledge and skill in agricultural subject matter for non-farm and non-agricultural occupations.

We must assume that teachers of agriculture in the future will increasingly teach in multiple agriculture teacher programs 1) at the secondary level, 2) at the adult level, and 3) at the post-high school, junior college or technical institute level. Many will teach in elementary schools, in special need programs, and in basic adult education centers. Many may even be expected to handle the community development programs, especially if they teach agriculture in urban areas or developing countries.

Within a relatively few years, the majority of the teachers of agriculture, may teach in urban areas and metropolitan areas.

In the future, because of team teaching and flexible scheduling they will be forced to relate more and better with other teachers, especially other teachers of vocational subjects. The agricultural occupations teacher in the future will not be expected or permitted to provide all of the vocational education a student preparing for gainful employment may need. He must be prepared to work in teams of teachers, especially teams of vocational and technical teachers.

If these assumptions and predictions occur, and they will occur because they are already facts in certain areas, although often not recognized, the professional

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education, the general education and the agricultural content education of teachers takes on new proportions. The needed changes in the general education courses will be discussed later this week. Let's focus today on the professional education needed for the changed and changing society and the changed and changing role of teachers of agriculture.

KINDS OF COMPETENCIES NEEDED

A blueprint of the competencies needed and how they can be provided is impossible in the time available. Attention to a few general competencies and to a few specialized competencies of most immediate concern will have to suffice for now.

Teacher educators in agriculture have gained much fame, prestige, glory and even envy for their ability to develop certain competencies and attitudes in teachers. In modernizing the professional education of agricultural occupation teachers, these competencies must not be forgotten, overlooked or neglected for they are basic to good teaching in any situation, old or new.

Professional education for agricultural occupation teachers should continue, as in the past to stress:

1. Problem solving teaching.

2. Use of advisory committees of lay citizens.

3. Individual instruction at school, on the job and at home.

However, some new abilities or upgraded abilities are needed. Agricultural occupation instructors in the future will need education, or additional education, to develop the ability to:

1. Participate effectively and in a meaningful way in team teaching and flexible scheduling programs. They will need to learn what they can contribute and how they can contribute as a member of a team of vocational teachers, when all vocational students in a school are grouped in large and medium sized groups to receive the vocational education common to a relatively large group of the vocational students.

2. Work with agricultural industry personnel and with labor union personnel. These people often have value systems and ways of interrelating with others that differ from the value systems and interrelation patterns of farmers.

3. Use of new media such as computers, closed circuit TV, and programmed systems of instruction. Teachers will need to learn how to develop the "software" for computers.

4. Work in a multiple teacher, not just a two or three teacher department or program. This will mean specialization in content taught, grade level taught, age level taught, aptitude level taught and perhaps socio-economic level taught. We need to develop specialist teachers, but we must not permit these specialists to forget or neglect the Gestalt of agriculture teaching and vocational education.

5. Work with technicians and with teaching aids. The professionally educated teacher will need to be prepared to serve as an instructional administrator.

6. Provide service courses and units of instruction for a.) non-agricultural occupations and for b.) non-vocational oriented students.

DEVELOPMENT OF COMPETENCIES NEEDED

It is not the time or place to present a blueprint for the professional education of agricultural occupations instructors. A discussion of a sampling of the seemingly more important and potentially promising adjustments needed will have to be sufficient.

1. With the apparent perennial shortage of teachers and the geometric expansion of professional education competency needs, teacher educators must become more efficient.

   Micro-teaching or micro-experiences may be a partial answer. With systematic, well-structured micro-experiences the prospective or in-service teacher may progress faster and further than he would with longer, less systematic, less structured experiences.

Perhaps micro-experiences are the answer to providing prospective and in-service teachers with the practical experiences in agricultural oriented industries that they need to teach the new agricultural occupation areas of a.) agricultural supply, b.) agricultural mechanics, c.) agricultural products, d.) agricultural resources, e.) ornamental horticulture and f.) forestry. I advance the hypothesis that four weeks of systematic, well structured, intellectualized micro-experiences would be superior to two years of just working in an agricultural supply business.

2. The professional education of instructors of agricultural occupations must emphasize the development of general vocational education competencies and loyalty to vocational and technical education in addition to the development of agricultural education competencies and loyalty to agricultural education.

Teacher educators in agriculture must give more attention to working with teacher educators in other vocational and technical subject areas. There are many competencies that we are trying to develop in teachers of agriculture that are common to all vocational subject areas.

We not only need to develop teachers who can participate effectively in team teaching and flexible scheduling situations, but we must learn how to cooperate with the professors of vocational and technical education in other occupational areas in the use of team teaching and flexible scheduling.

3. In our professional education program, we need to accept the fact that we will have teachers preparing to teach and teaching in non-production areas such as agricultural supply, agricultural products, agricultural resources, and so forth. We have no choice but to adjust methods courses, student teaching experiences and other professional courses to meet their specialized needs.

4. In our in-service courses, we need to recognize that secondary teachers, junior college or post-secondary teachers and adult teachers do not encounter the same professional education problems.

5. We need to modernize our professional education courses.

Let's start thinking about and planning for the "tomorrows" instead of the "yesterdays" in our professional education programs for agricultural occupations teachers.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Cecil H. Johnson, Jr.*

Agricultural education majors should have the opportunity to associate with other education majors in introductory education courses. However, in methods courses, classes should be homogeneous in nature to create the correct climate for optimal student teacher benefit. Commonalities between agricultural education and other vocational education programs should be given increased emphasis in teacher training programs. In addition, commonalities between production agriculture programs and specialized courses in agriculture should be stressed in teacher education programs.

Team teaching between agricultural education staff members and other vocational education areas may be a solution to increasing the understanding of other vocational education service areas. Teacher educators should work with supervisors and administrators to determine the demand for vocational agriculture teachers in production agriculture and specialized areas and offer courses accordingly.

Further study of the application of micro teaching and other media to training vocational agriculture teachers should be conducted.

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OFFICE OCCUPATIONS TEACHER EDUCATION CLINICS SPEECH

Fred S. Cook*

It is quite obvious as I look at this audience and recognize most of the people here and say, "20 years of experience," this still makes me a youngster; but I am a grandfather. Twenty years spent in five different types of institutions. Twenty years spent under two distinctly different administrative structures for the Department of Business Education. Let me just describe very quickly the types of institutions and their organizational structures because these have a definite bearing upon the assumptions that I will make very quickly.

First of all, I was at a small church-related college that wanted neither business nor secretarial education. It was under the Business Administration Department; it was tolerated. Next, I was at a small church-related college that wanted secretarial training and they tolerated business education. I then served some time, if that is the proper way to phrase it, in a large prestigious institution which wanted business education with a question mark, perhaps--and they tolerated, in the School of Business, a secretarial program. The business teacher education was under the College of Education and shared with the School of Business Administration. I was then with another prestigious institution that wanted business education but would not tolerate secretarial education under any stretch of the imagination. The administrative office in which I served was in the College of Education. And finally, I'm with a very large institution that is not prestigious but wants and supports a business teacher education program and is willing to support a quality secretarial education program. The last institution, the one that will really be my case history and that I would like to emphasize in the remainder of my remarks is Wayne State University. This is a university which is not prestigious, but I firmly believe it shall be a great urban university in its time. It is this type of institution, I think, that is going to play a dominant future role in the preparation of people in the field of office and business education.

From these specific experiences, with five different types of institutions, with different backgrounds as far as their likes and desires for business teacher education and/or secretarial, and from working under schools or departments of business administration and/or schools or departments of colleges of education, I'd like to say that the program that we have at Wayne State University is an emerging program using some new approaches and some that are not so new. Based upon my own background there are three key assumptions that you can accept or reject as you see fit; these are key assumptions from which I am predicating the program that we're developing at the university and predicating on what I see as the role of the business teacher training institution in the seventies, if not today.

First of all, I maintain that the primary responsibility for the preparation of business teachers must be delegated to the chairman of the department of business teacher education. Now I'd like to repeat that one because I think this is fundamental to what I see as many of the problems that we have today in the preparation of business and office education teachers. The primary responsibility for the preparation of business teachers must be delegated to the chairman of the department of business teacher education and by this I mean decisions affecting general education; decisions affecting content (if this is what we mean by courses taken in the department of business administration); and decisions affecting the professional teacher education courses.

Secondly, the department of business education should be located in a department, school, or college of education because I think that is where the function is housed for the preparation of business teachers.

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Third, teacher education especially in a university must innovate: it must break new paths. It must not be concerned with just today's market. It has a very definite responsibility in attempting to try new patterns and new programs and new ideas for the preparation of teachers for today's as well as tomorrow's classroom.

Based upon the foregoing experiences and the three assumptions that I have outlined, plus a series of research and demonstration programs that it has been my good fortune to participate in in the last seven years (most of which have come out of the Department of Business Education since I have been at Wayne State with the help of a very effective staff), plus material that we have gathered obviously from personal data on social changes, technological changes, demographic data have all played a very vital role in the preparation of business teachers in an emerging urban setting. The following projects I'd like to just hit very quickly because I think that they have some implications for my thinking at least in terms of the ideas and some of the projects from which we are currently embarking in the field of the preparation of primarly high school, junior high school, and community college business teachers.

First of all, we have spent considerable time in terms of following up high school kids to find out what actually happens to them so we in turn can utilize these data in the preparation of teachers to know what kind of jobs and what kind of skills are needed. This was identified by the Opportunities and Requirements Study that was completed about two years ago.

Secondly, we have made an effort to develop a new curriculum pattern. Maybe new isn't the right word but a different curriculum pattern for boys and girls in the office, distributive and data processing occupations based on some of the data that has come out of the research studies. This means that we have also attempted, in the preparation of curriculum materials for the students, to prepare teachers to teach these new materials.

Third, we have conducted annually for three years in our market area, which is the Southeastern part of Michigan, data processing studies to determine the number and types of jobs available and the training demanded for those jobs. We also conducted at the national level through Delta Pi Epsilon a very small study to determine the status of data processing in the public schools of the United States.

We've also conducted in the Michigan area several office machines studies to determine the training required by businessmen and this again was done somewhat on the kind of equipment businessmen have and schools have. This was also done to a limited degree through the Balance Sheet under the auspices of Delta Pi Epsilon in an instrument that was sent out two years ago.

More recently, we have attempted to take a look at the preparation of junior high school as well as data processing teachers through two funded projects for what we have called the "Master of Arts in Teaching" programmed for individuals who have a baccalaureate degree with background in business administration, then want to specialize in one of these two fields. The junior high program and the data processing program are both funded under the Prospective Teacher Fellowship Program under Title 5 of the Higher Education Act.

Last, and the one I want to spend the most time on, is the Office Occupations Teacher Education Clinics that were concluded a year ago. These were national in scope and out of these clinics came a series of some 19 guidelines for the preparation of business and office occupations teachers. It is to these guidelines that I would like to address myself and to pull from them some "for instances" of what we're attempting to do, not necessarily as a result of the guidelines but to illustrate new and emerging things that we are attempting in the preparation of vocational teachers in the field of business, office and distributive occupations in an urban setting. I hasten to add that it's quite obvious I am putting a large emphasis on the urban setting, but I think it's also obvious to all of you that the predictions are that something like 80 percent of the total population of this country will be living in the urban areas in the middle seventies. So somebody should be putting attention on the preparation of teachers for the kind of schools where the teachers are going to be teaching.

The Office Occupations Teacher Education Clinics and the guidelines for vocational office and business education teachers were developed through a series of conferences and clinics that were national in scope and to which approximately 350 business teacher educators and city and state supervisors responded either in person or through mailing back guidelines or instruments that were sent to them for review and response. A number of you in this room participated in one or more of those clinics. I'm going to say parenthetically that I'm aware that these guidelines are no better than the people who developed them and no better than the institutions in which they are used;

it is quite obvious to all of us that were concerned with this that the 19 guidelines were a series of compromises as is to be expected when you have many people with a variety of backgrounds developing common materials, but I do believe that they serve some key points.

I'd like to spend the remainder of my time then on some of the guidelines not necessarily in their order of importance. We have deliberately done this both in the document and in this presentation to avoid a discussion, what I would call a "nit pickin," as to which should be first and which should be second and so on. I also hasten to add that the materials and the illustrations that I shall refer to in relation to these guidelines are not mine. These are ideas we have developed as a team at the university composed primarily of young people who are graduate students working closely with representatives from the Detroit public schools and Dr. Lanham and Dr. Trytten at the University of Michigan.

The first guideline I would like to talk about is what we have indicated in our conferences and in our own teacher training program, that a fundamental understanding of the field of business administration or the content of a business teacher should be in the field of business administration and I would like to add to that, "economics." This has had considerable implication and application at our university because we have had complete control of the specific courses and the number of courses that our business students take in both fields. We have attempted then to build a broad background in the field of business administration <u>per se</u> and a limited specialization in the so called secretarial subjects which may or may not be new. We've also, by virtue of the working relationship that we've been able to establish with the Dean of the School of Business, been able to teach sections of typewriting for business teachers and sections of shorthand for business teachers. I know that this is not new but I believe that it is something that many institutions should look at again as a pattern to project the kind and quality of skilled courses they want their prospective teachers to have, especially in institutions that are not allowed to have or are discontinuing secretarial programs.

We also had as a guideline in this series that occupational experience is essential for an effective business teacher. One of the items we have been able to work out in cooperation with the State Department of Education in Michigan is that if a teacher lacks specified hours of work experience, we can either as an undergraduate or a graduate provide them with supervised work experience for credit. They receive credit, they receive pay, and they receive credit towards vocational certification for occupational work experience. This is an area that I believe we need to do some very deep thinking on; I think we ought to have some subsidy research because the theory of occupational experience sounds very good, but I'm not so sure that in actual practice we get a return or the teacher gets a return on her investment for the time spent in the occupational experience.

Another guideline that we indicated was the teaching-learning process. It was essential obviously, that they (the guideline writers) should attempt to equip the teacher learner or the student teacher with an understanding of the sociological or psychological principles involved with the preparation, their preparation, and with the learning process. One of the innovations we are attempting to get underway next term is a course that will be taught by an education psychologist, a sociologist, and a representative of the Business Education Department. It will be a team teaching course for the so called core or professional courses required or experiences required for our prospective business teachers; we do not know whether it will work. We don't know how successful this will be, but it is an attempt to also provide the students themselves with the experience of seeing how team teaching works and also trying to provide, as far as I am concerned, more meaning to the education psychology work and the sociology work and tie it in directly with the content of the field of business and distributive education.

In the instructional process, or instructional procedures, guideline 7, we state a teacher should be proficient in the use of instructional procedures, media techniques for developing office skills and concepts. Like most of the guidelines this is quite broad, but we have stated that a teacher should not only know what to teach but how he can best help students develop skills and learn concepts. We further indicated that most individuals learn better when multiple media or stimuli are used in the process. So in our department two years ago we were fortunate to have some unexpended funds and an instructor who read about or who was, as a matter of fact, at the conference in Detroit where a young man from Stanford University talked about micro-teaching. This instructor became intrigued with the concept of micro-teaching: it was possible for him to then go to Stanford University, talk with the people there, learn about micro-teaching, and on his own initiative, bring these ideas back. We've incorporated, as of last year and on an experimental basis, micro-teaching in our methods courses in both office and distributive occupations. And we're in the process

this year of, through a grant, doing an evaluation of micro-teaching experiences for business and distributive education teachers.

We've always been a vocational education school of business and distributive education; and, if by some minor readjustments within a course called Principles of Business Education we can do an adequate job of indoctrinating or, if you pardon the expression, with my permission, "brainwash" the students on the concept of vocational education, we have done so. We've also worked with the State Department of Education--and when I say we, I mean all the teacher training institutions--so that it is manditory that all the teachers who are coordinators in our state must have a separate course in principles of coordination which would be one part of this guideline.

Probably the guideline we have attempted to put the most time on in our undergraduate and our masters program is the one that states the teacher should understand, appreciate, and keep abreast of innovations, experimentation, and research in education and in office technology. We've done this through our own direct involvement in such projects as the Opportunities and Requirements for Entry Occupations and the current Senior Intensified Program and more lately the Moonshot or Nobels project that is being started. For example, we have some 20 office education interns out this term using specially prepared materials in their typing classes that we developed for the Senior Intensified Program: so they have been brainwashed. They do know that this is experimental work, that this is not traditional work, and that we are trying to get their evaluation of the material. They know they are part of an ongoing demonstration project.

The guideline that we have put probably more time in than all the others involved is what most schools would call today student teaching. I think that all critics of education have indicated they feel there is some relevancy to the field of student teaching. Starting this fall at our department none of our students are going to be student teaching; they're all going to be paid interns. Let me define the way we use this term at Wayne because this is not the way the AFT uses it. We say that a paid intern is an individual who has met all the basic requirements for certification with the exception of the student teaching experience. We then secure a teaching position for this individual for a high school semester despite the fact that we are on the quarter system. The intern has the responsibility for three classes, two of which are of the same preparation and the third a different preparation and duty. These are 40-minute classes (in the city of Detroit the typical class day is 9 class periods). They are paid two-fifths of a beginning teacher's salary and they get an emergency certificate during the time that they are doing their interning. We try to have teams of two interns in the school so that they fill the job of a full-time teacher. The school board releases the master teacher one period per intern for supervision. In our opinion, the master teacher is on a staff relationship with this individual rather than the typical or traditional critic-teacher line relationship with the student teacher. We also provide rather extensive, at least we think it is in terms of our sister institutions, comprehensive and intensive supervision from the university by specialists in the field of office and business education. Parenthetically, we are the only state institution where the department of business and distributive education, by policy, supervises their own student teachers. In all the other state institutions, the supervision of student teachers is done by people in the department of education who may be in any discipline. Then as an added device for supervising the interning experience, we do have an individual who has been hired full-time with a portable TV camera to go into the schools videotaping the intern in the classroom setting. This is frankly very, very new with us. We don't know how this is going to work: whether it is going to be good, bad, or indifferent. We believe it will provide us with an opportunity to give more intensive supervision with less staff expenditure of time and enable the individual student to receive a higher quality of supervision by being able to see a videotape playback and have a conference with the college supervisor and/or high school supervisor, as the case might be, as they watch the playback. To standardize and get some comparable data we're using an instrument that was designed by Stanford University as part of our micro-teaching program. We will, in our evaluation of our observation, be able to compare our data with the data that has been collected in the last three years at Stanford University. I might say that this rather scares the staff members who are doing the supervision of student teachers; and I am sure that when the student teachers see the evaluation form, it will scare them too because an A rating is number 10, but I suppose that everyone could easily say that that is equivalent to an A grade. At Stanford they apparently grade on a scale where only something like seven percent of the students get that kind of a rating when they see the observation. We hope all our students get A's, but we will not grade on a curve. This will be one of the problems of using an instrument designed at another institution, but it will provide the validity of the comparability.

The last item in terms of what we've attempted to do is on this guideline on equipment, which states that the teacher training institution should have up-to-date

office machine and laboratory facilities. We had a lot of discussion at the time this was being developed as to exactly what we meant by this, because there are some very honest differences of opinion on what kind of equipment you should have in a laboratory for the preparation of business teachers. There is an even greater difference of opinion on how much time an individual should spend on any given piece of equipment. This is especially true when we are talking about university credit. I'll have to say in all honesty that my own approach has been to do more of a survey apporach to the traditional office equipment, especially the different kinds of typewriters, adding and calculating machines, and the duplicating equipment. We have made our major effort in the past two years to get a data processing installation for the use of business teachers; this was accomplished this fall. For the first time, we have laboratory facilities only through unit record equipment, unfortunately, but at least it's a start. The unit record equipment is rented by the university specifically for the pre-service and in-service preparation of high school business teachers. Conversant with that, we do have two experimental programs, one at a very high level technical high school where we asked the students learning the process of data processing and another at an inner city school, Northern High School, where they are also putting them through the data processing program using the facilities on campus.

Another guideline is called "dedication to education." I think it is the most important one on the list, but the most difficult one to do anything with, and you almost have to have the luck of the Irish to even talk about it. The teachers should have experiences that will develop interest in and dedication to the education of students for occupational proficiency. It is very nice to say, I'm sure that we all agree with it, and I'm sure that if we could ever develop any kind of a device measuring instrument that would say yes, this person is really interested in working with kids, then all the other things that I have said can be forgotten because this individual will go out and do the kind of job that we're concerned with. You might find others in these guidelines that you think are more important or more imperative for you to emphasize in your own teacher training program. I've based my discussion and enumeration of these items as a type of case history of what we have at an urban university, and I remind you that they were based on three major assumptions which you may or may not want to accept. I would like to repeat those assumptions.

The first one is that the primary responsibility for the preparation of business teachers must be delegated to the chairman of the department of business teacher education. This means in terms of determining the kind of general education the person will have• i.e., how much economics versus something else; the content of the business administration program; i.e., whether it shall be almost exclusively in the field of secretarial, or the case in my institution might arise where there might be some other approach; and what we mean by professional education; i.e., shall it be the responsibility of a department of teacher education to teach the so called core courses; and finally the supervision of student teachers; i.e., the only responsibility the business department has is in the teaching of a methods course and then "kiss the kids goodbye" as exists in many of our institutions today. My assumption, which you may accept or not, is then that the responsibility must be delegated to the person responsible for the preparation of the business teachers.

My second assumption is that this department should be located in the department of business education.

The third assumption was that a teacher education program in a university must not be too concerned with today; they must be trying to take a look at tomorrow and breaking the traditions of a teacher training program. We're attempting to do that: we have attempted to do that in terms of micro-teaching, videotaping, and the kind of equipment that we have secured for our students.

I have one recommendation to make. It's a recommendation addressed to the National Association of Business Teacher Educators. Very specifically, if the pattern that is developing in the State of Michigan and the other state institutions is the pattern that is happening in the rest of the U. S., in that the business education departments are not the ones placing and supervising and following up the business education students--I think that NABTE ought to institute some kind of procedure for accrediting business teacher education programs, and one of the criteria for the presentation of the program ought to be the program that gives business teacher education departments the responsibility for the preparation of business teachers.

I have shared some experiences with you, tried to tell you the background of how some of these have been developed, and have gotten a challenge out in terms of NABTE which I hope someone will pick up. As Mark Anthony said as he crawled through Cleopatra's tent, "I didn't come here to argue but I am willing to try to answer any questions."

DISCUSSION FOLLOWING DR. COOK'S PRESENTATION

Marla Peterson*

Several questions about micro-teaching were directed to Dr. Cook. Participants wanted to know whether research has proven micro-teaching to be effective. Dr. Cook cited the Stanford U. research on micro teaching. Little concrete facts have come from the research but indications are that micro teaching has been effective in some "ways." These "ways" are yet to be identified. Micro teaching is not a panacea and cannot cure all ills but those who understand the micro teaching process should try it.

Discussion also centered around the topic of who should determine the curriculum content of a business education program at the university level. Dr. Cook stated that this should be the responsibility of the business education department chairman and his staff. They may consult other departments in the university but business education curriculum content decision and leadership should come from the business education chairman. One participant pointed out that business education can provide the leadership in many institutions but they do not have control.

Dr. Cook stressed the importance of examining the teaching minor in relation to the major. He feels teaching minors are ineffective unless they relate directly to the major. Example: Business Administration major and a marketing minor would be an appropriate combination. With the exception of shorthand, all business teachers should have a broad business background.

The remainder of the discussion was spent on the problems of training teachers of the disadvantaged. Suggestions for improving teacher training included:

1. Work for learning readiness.
2. Study to what degree we are controlled by a middle class job market.
3. Take a look at the social picture to determine if our students can get jobs once they are trained.
4. Take training programs for teachers of the disadvantaged out of the university and attach them to technical schools. (No consensus)
5. Let college students spend their senior year at an urban university.
6. Look at our ghetto teachers who are already successful.
7. Let effective teachers supervise student teachers instead of selecting supervisors according to years of experience.
8. Let business teacher educators coordinate the student teaching programs of their majors rather than the generalists.

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NEW APPROACHES IN THE PROFESSIONAL EDUCATION OF DISTRIBUTIVE EDUCATION TEACHERS

Richard D. Ashmun*

The preparation of this paper was somewhat difficult because deciding what is "new" is a matter of judgment, background and experience. How "new" is "new"? What is new and innovative to some persons has been a matter of practice to other persons for several years. Nevertheless, an attempt will be made to discuss some of the approaches to the professional education of distributive education teachers that are considered to be new or innovative. Most of these approaches have been tried or are being used in the professional preparation of distributive education teachers.

Background information for the paper was obtained from the reports of several seminars on teacher training, periodical literature, informal interviews with teacher-educators, and the experience of the writer. These procedures are evident in the professional training of undergraduate students, graduate students, and in-service personnel.

The major emphasis of the paper is on the development of the person rather than on any specific program. Business and industry are becoming more cognizant of understanding man's needs and his relationship to the organization in which he works. There is an increased importance being attached to human dignity and the worth of the individual, as well as preparing him to assume leadership roles in a democratic society. This means he must be familiar with the process of change, and even be a major element in bringing about change. It also means that the individual must learn to solve problems in this kind of system. All people, including teachers, will have more to say and will have more influence on the organizational structure in which they work. Teachers and lay persons, for example, will have a more direct influence on the total operation of the school system in which they teach. This is now evident in many schools which offer vocational-technical education programs, especially where advisory committees are active and influential.

The emphasis in the teacher-training of a vocational-technical teacher-training program should be to develop the potential of the teacher. Business and industry recognize the fact that a worker is hired for his potential. Therefore, if we believe we can learn from our friends in business, then we should also be concerned with developing to the fullest extent possible the teaching potential of a vocational-technical teacher. This means there must be close personal relationships between the teacher-trainer and his students within the classroom as well as outside the classroom. A helping relationship must be established to foster the growth of the student as a teacher and as a person.

It is evident that we, as teacher-educators, must be concerned about the needs of our students in order to develop their teaching potential. So often we transmit information (teach) to our students based on what we think they need to know and do rather than on what the student needs. In other words, we assign the priorities and seldom question our own motives, integrity, or commitment but may seriously question these things in our students. A recent report from the National Association of Manufacturers, "What's Wrong With Work?," includes reference to this element in the training of workers as well.

Basically, then, we are concerned with developing the potential of the vocational-technical teacher as a teacher and as a person to assume his proper role of training students for career potential in a democratic society. He will have personal needs

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and limitations which we must recognize and account for in our teacher training. We ought to help the student develop a value system and philosophy which will stay with him long after he completes a teacher-training program.

INNOVATIONS AT THE UNDERGRADUATE LEVEL

A feeling of belonging and involvement on the part of the student early in the teacher-training program is vital. This is often difficult, especially at a large university, because the students may not be too well known and have little contact with their adviser. Therefore, juniors and seniors in the program can serve as contact persons with sophomores and freshmen. Some schools have a variation of the "buddy system" where each lower-division student has a senior-division student assigned as a buddy to help him adjust and fit into the program in a way which builds confidence and a feeling of belonging.

One of the most important vehicles to use in involving students at the undergraduate level is the club. At the University of Minnesota, we have the Business and Distributive Education Club. It is not new but has served a worthwhile purpose in bringing our students together in a professional and friendly way. The students themselves take complete charge of the club under the direction of the major advisers. All students majoring in business or distributive education are identified early in the fall, and each receives a brochure which explains the club program. The brochures were developed by the students themselves. A series of social and professional meetings are planned and carried out through the year. An added incentive is that all seniors in distributive education receive memberships in State and National DECA paid for by the State Association. The club also serves as a means to develop the leadership potential of the students as all activities are initiated by the students. There is a transfer of initiative from the student when he begins a teaching career to his own students in developing the club program in his school. He has had the experience himself and can see the value of the club program in the total vocational-technical program as well.

One of the major problems is getting students to assume responsibility for their own development. Guidance from the teacher-trainer is of paramount importance. Time should be set aside to work with each student individually as well as in small groups. Therefore, skill should be developed in the use of guidance and counseling techniques. A danger is that too often we "teach" in a counseling situation rather than give the student an opportunity to ask questions and explore in order to better understand himself, his relationships with others, and his career goal as a vocational-technical teacher. Students want and appreciate the kind of feedback which helps them achieve their potential and improve their relationships with persons around them.

Another technique which helps the student to better understand himself is to give more responsibility to the students in evaluating each other. This must be a constructive kind of evaluation and is probably achieved most effectively during the senior year when the students know each other better. At the University of Minnesota, it is done in the methods course where each student is assigned numerous responsibilities all the way from written assignments and projects to conducting the class. In fact, during the last quarter in the three quarter sequence the class is conducted entirely by the students under the direction of the teacher-trainer. Toward the end of the quarter each student writes an evaluation of every other student in the class. The evaluative criteria are based on the student's performance while conducting the class, his contributions as a class member or project member, and his potential as a teacher. The criteria are listed in the form of a balance sheet with positive points on one side and suggestions for improvement on the other side. A composite of the evaluations is made for each student, prepared in written form, and discussed with each student personally. The reactions of the students are highly in favor of this type of evaluation as it is personal and helps them take a closer look at themselves and how they affect others. They more readily accept evaluation by their peers than by one person only, namely, the teacher-trainer. This does not mean the teacher-trainer does no evaluation. Student evaluations supplement the evaluations made by the teacher-trainer. Feedback to the student is essential in order to assist in the personal development process.

One important aspect of student evaluations is to give them the opportunity to evaluate the effectiveness of instruction on the part of the teacher-trainer. He should be evaluated in the same terms. This is one way to determine what is "needed to know" from the students' point of view. We cannot force the students to evaluate each other if we don't give them the opportunity to evaluate us as teacher-trainers. We should also be concerned about developing our personal and teaching potential.

Another aspect of evaluation is to what extent students participate in professional activities outside and beyond course requirements. One way of stressing the

importance of professional activities is to give some type of credit to the student for these kinds of activities. For example, students should be encouraged to join the State and National vocational associations as student members. They should attend meetings of these associations, as well as meetings of business and civic groups. They should take an active part in State leadership conferences--serving as judges for competitive events, customers for sales demonstrations, and observers at general meetings. They should take an active part in the specific vocational association at the state level, the state association of distributive educators, or state education association. Some may even attend the National Leadership Conference of DECA, a highly motivating event for any prospective distributive education teacher. Other activities may be attending PTA meetings, assisting in local club programs, advising junior achievement companies, recruiting students, and many others. Credit may be given in the form of points based on the extent of personal time and involvement. These activities should be recorded and filed for each student to serve as a guide in determining his future potential.

Student teaching has typically been an integral part of the distributive education teacher-training program. However, some new approaches are evident. Most student teaching experiences have been obtained during the senior year. A disadvantage of this procedure is that the student has little exposure to the realism of teaching before this time in order to help him test reality and proceed further or change his goal. One procedure to help the student test reality is to have him spend a complete day or two with a vocational-technical teacher. He observes classes, talks to students, makes coordination calls, queries the teacher and in other ways follows him through an entire teaching day. He is exposed to the real-life teaching situation as it actually exists. This procedure also helps the student gain more from his professional classes, as he develops an apperceptive base or background information to aid him in his understanding of the teaching process.

Following through on the matter of early exposure to actual teaching, some colleges and universities have included a course in the junior year called "An Introduction to the Teaching of Distributive Education." This course is designed to acquaint students with the distributive education program as it is organized at all levels. Included in the course is a limited exposure to student teaching ranging from two to four weeks. The student is assigned to an experienced teacher for one class hour per day during the time allotted. He assists with assignments, makes up materials, plans lessons, and teaches a short unit. In this way the student gains a more extensive experience and insight into the teaching process before his full-time student teaching experience. Once again he has the opportunity to test the reality of a teaching situation and analyze his own goals and potential in light of this reality. It also adds to his competency as a full-time student teacher and as a full-time teacher.

A procedure which is not easy to carry out in all teacher-training programs is the scheduling of weekly seminars for student teachers. It is not easy because in some cases the student teachers are placed over a wide geographic area and it is impossible to get them all together on a weekly basis. Nevertheless, such seminars are valuable in providing a basis for discussions of problems and issues, planning, duties and responsibilities, analysis and evaluation of instruction. Students are given responsibility in the seminar for planning and leading discussions, as well as preparing materials to be critiqued by other seminar members. Fridays seem to be good days for such seminars as the procedures and problems encountered during the week are fresh in the minds of the student teachers. The seminar is a vehicle set up specifically to deal with student experiences and alleviates the necessity of spending time in other classes to answer questions and solve problems regarding student teaching.

A new approach used in the seminar mentioned above is the use of a video-tape recorder. During the full-time teaching experience, each student teacher's class presentation and activities are taped while the class is in session. The student teacher is given the first opportunity to view his presentation and evaluate it in terms of his effectiveness, responses from students, and the involvement of his students. In other words, he sees and hears himself in action as a teacher which up until now has been difficult information to obtain except under the most restricted conditions. Once the student teacher has viewed and listened to the tape, the other members of the seminar are permitted to view the tape and analyze the effectiveness. The tape adds realism to discussions because actual situations are the basis for such discussions. Problem-solving and decision-making activities can be built around these taped presentations. For example, the tape recorder may be stopped at any time to analyze and evaluate and then discuss how the presentation could be made more effectively, or deciding what the next step should be. Seminar members may also criticize constructively the presentation of the student teacher and offer their suggestions for improvement.

Another use of the video-tape recorder is the taping of short bits of actual teaching by an experienced teacher or student teacher. These short presentations may serve to illustrate specific methods such as role playing, field interviews, conference leading, project work, group discussions, etc. In each case, the role of the teacher becomes more clearly defined and realism is added to the teacher-training process.

We have practiced and given lip service to the process of determining objectives for many years. The determining of objectives is not new, but some of the procedures for determining objectives are new. An example would be the recent report by the Human Relations Resources Research Office at Georgetown University. The investigators, operating under a contract from the Army, based instructional aims and scope on three types of objectives--relevant work performance objectives, terminal student objectives, and enabling student objectives. Complete details of this report will not be discussed in this paper. The point is that our students should be made aware of and become competent in the determining of educational objectives by using new approaches.

A need is evident for utilizing and cooperating with other vocational services in vocational-technical teacher education. This is being done on many campuses. For example, our colleagues in trade and industry have developed excellent procedures for course analysis and construction. Students should be encouraged, if not required, to take such a course as they become acquainted with the process of determining course content, as well as gaining insight into procedures and experiences of persons in another field.

Somewhere in the teacher-training program there should also be an exposure to the educational programs of other vocational services. The student needs an understanding of such services in order to establish and carry out programs which cross vocational fields by cooperating with personnel in these services. Horizons need to be broadened in order to turn out a more productive and competent worker.

Another new approach to cooperation is evident in that persons teaching in academic fields are becoming concerned about the use of their disciplines in the world of work. For example, teachers of English are more concerned about the communications process in business and industry, and how they can help a person take his place in this environment. Future vocational-technical teachers should be made aware of the necessity to cooperate with these people on joint educational ventures. For example, having students do projects which incorporate skills from vocational as well as academic disciplines would be one approach.

The matter of cooperation may also extend to pursuing majors in more than one vocational field, or at least minors in other vocational fields. This not only leads to increased understanding at the teacher level, but serves as a basis in preparing future supervisors and administrators of vocational education. It is evident that as vocational-technical programs continue to grow and expand there will be an increased need for persons who have training and experience in more than one vocational field.

A trend seems to be toward more involvement of undergraduate students in the activities normally carried out only by the teacher trainer. For example, students are consulted and even included when giving talks to outside groups or in recruitment activities. They may help explain the teacher-training program and answer questions from interested persons. Some teacher trainers have had students develop the outline for a presentation they were to give at a conference. Another example would be asking for their assistance in making changes in teaching a course. We should keep in mind that these people are on the receiving end and in many cases can provide valuable suggestions for improving and upgrading our own competency as teacher-trainers.

GRADUATE LEVEL AND IN-SERVICE PROGRAMS

These two levels will be discussed jointly because in many cases graduate students are also in-service teachers. They come back summers to pursue advanced degrees, or take courses concurrently with a full-time teaching position. This is assuming these people are willing and have the desire to seek advanced education. One of the greatest needs, and one of the greatest challenges, is to help in-service personnel see the need for keeping up to date. The success of our programs depends on how well our teachers train competent workers. In order to train competent workers, our teachers must keep abreast of not only the changes in business and industry, but the changes in educational processes and procedures as well.

The new vocational-technical teacher needs personal help during the first few months of his teaching assignment. In many cases, visits are made by state supervisory

personnel and not by the teacher-trainer. It seems logical that the teacher-trainer should also make follow-up visits to new teachers. There are mainly two reasons for this. One is that if the teacher trainer has gained the confidence and respect of his students, he would be the person most acceptable to the new teacher. That is, the teacher would be more willing to ask for help on specific problems. Ideas can be shared, problems can be discussed, and suggestions can be made at the time the information is most needed and would be most helpful. A second reason for these visits is that the teacher trainer has the opportunity to see the results of his teaching--good or bad. His observations and experiences in the field provide excellent feedback to determine the effectiveness of the teacher-training program. As teacher trainers we also must be willing to change our methods and procedures. What better source of information do we have other than our teachers who are on the firing line each and every day? A major problem is that this type of service function is often overlooked by many colleges and universities as a priority mission of the teacher-training program.

A recent trend seems to be the involving of graduate students and in-service personnel in a closer examination of issues and problems. Too often, we, as teacher trainers, avoid such things in our classes because we do not want our students to develop negative attitudes toward the field. If we expect our teachers to confront problems and issues in a rational, educated manner, then we must give them some tools to use. Our teachers should be able to recognize issues and problems and come face to face with them in a realistic manner. They should examine, investigate, discuss these issues, and make sound decisions in regard to them.

Well-organized workshops and institutes are being conducted on a much broader scale in which many different kinds of talents and backgrounds are brought together to develop a more competent teacher. For example, this past summer a training project was conducted at the University of Minnesota in which the emphasis was on improving the teaching and guidance competencies of a selected group of distributive teachers and teacher-coordinators. One of the major goals was to help these people become more skillful in improving the career development competencies of students enrolled in distributive education programs. Another major goal was to improve the participants' understanding of themselves and their relationships with other people. Guidance personnel from the campus played a major role in teaching and consulting for the project. An assumption was that vocational-technical teaching is people oriented. The emphasis then was on the development of people.

One-third of the time in the project was spent obtaining sensitivity training in small groups. These small groups were called T-groups with a goal of helping the group members gain insight into their personal behavior and their relationships with others. The process proved to be extremely effective as evidenced by follow-up evaluations and comments from the participants. A major assumption was that as each person learned to work more effectively in the group, he would learn about himself and how he could work more effectively with other groups and individual persons. Industry has used the technique effectively and it proved effective in the training of teachers.

Another third of the time was spent in learning about career development and counseling theory. Didactic instruction was given regarding career development theory and processes, as well as techniques to use in personal interviews with students. The participants taped actual counseling interviews which included the dialogue of each participant in an interview situation with a high school student. The interviews were then critiqued in small groups under the direction of a trained counselor. Each participant had the opportunity to practice his interviewing techniques and receive constructive suggestions for improvement. Once again, each person gained insight into his own behavior and how he could deal more effectively with his students.

The remaining third of the time was devoted to developing learning activities centered around career development subject matter. However, an interesting step was taken beyond this in that the learning activities were put into practice with a demonstration class of fifteen high schools who had been previously selected. These students were in class two hours per day for four weeks, receiving instruction related to career development. In addition, they were placed in a distributive occupation with a local employer in much the same way a student is placed in a cooperative program. Each student was assigned to two participants as his coordinators who followed up on-the-job progress of the student. The students in the demonstration class were asked to keep diaries of job activities, their observations, their satisfactions, and their feelings while at work. It was interesting to note the changes in these students even over a short period of time with regard to how they viewed themselves in relation to the occupational field. It was also interesting to note the changes in the participants and how they dealt with these students. There were strong personal relationships that developed and were maintained in a very short period of time. All persons concerned

became "people-conscious"--i.e., aware of the motives and behavior of other persons as well as gaining a better insight into one's own behavior and how he affects other people.

Another type of institute which is of recent origin is the leadership development institutes such as those held at the University of Wisconsin, the University of Montana, Rutgers University, and others. A testimonial to the effectiveness of these institutes is the fact that the present state supervisor of distributive education in Minnesota was a participant in one of the first leadership institutes. One of the participants this past summer will soon be named as an assistant state supervisor. All others from the state have either been promoted or have had additional responsibilities added to their jobs.

These institutes are also effective in disseminating new information, techniques, and processes effectively in a short period of time. An example would be the institutes sponsored this past year for teacher trainers and teachers of distributive education regarding the project plan and project method. A testimonial to the effectiveness of these institutes is that one teacher trainer and one teacher who participated conducted major sessions regarding the project plan at the annual coordinators' conference.

Another institute designed to stress new approaches was sponsored by the National Cash Register Company for distributive education personnel in Minnesota. It was conducted for three days with the major goal being to gain insight into data processing systems as used in marketing and merchandising. This information was then summarized with the intent being to incorporate it into the subject matter of distributive education programs. It is hoped that this will be followed by a 5-week workshop next summer in which curriculum materials and learning activities could be developed to help students acquire skill and understanding of data processing systems in marketing and merchandising.

The above examples are indicative of several trends. These are: 1) the cooperation in teacher training of personnel from several teacher training fields, 2) the cooperation of institutions within and outside the state, 3) the cooperation of two or more states in establishing programs, institutes, and workshops, and 4) the cooperation of institutions, states, and the U. S. Office of Education.

SUMMARY OF THE REMARKS AND DISCUSSION OF PARTICIPANTS

Kenneth E. Hoffman*

Two newer phases of teacher education programs in distributive education were introduced by the participants. One, at Virginia Polytechnic Institute, involves a supervised adult teaching program for seniors in teacher education programs in which the prospective teachers teach high school students who are not in distributive education. These are pre-Christmas courses in which the seniors in the teacher education program coordinate and teach high school students on the same basis as adults enrolled in similar courses.

The other program, carried out at the University of Wisconsin, is a series of developmental experiences for new vocational education personnel in an eight-week program of qualification and initial experience in establishing new high school vocational education programs.

The participants recommended that:

1. Advanced teaching methods courses as well as directed professional and occupational experiences be further expanded at the graduate level.
2. Regional teacher-education programs be further investigated and promoted on a pilot basis.
3. Teaching methodology courses should be specific and directed toward a particular vocational service area.
4. The leadership developmental phase of distributive education, using the workshop or institute approach, be continued.
5. That attempts be made through research or experimental, developmental or pilot programs to reexamine the scope and content of professional education experiences offered in distributive teacher education. It was also suggested that distributive educators negotiate with other vocational services to improve teacher education programs and to reduce duplication and proliferation.

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PROFESSIONAL COMPONENT OF THE PREPARATION OF TEACHERS
HOME ECONOMICS TASK FORCE GROUP

Marie P. Meyer*

Home economics teacher educators, state department personnel and home economics staff members of the U. S. Office of Education have been concerned about unifying and giving direction to the organization and content of the professional component of home economics teacher education. This concern has led to federal funding of two national seminars in home economics teacher education. The first was held at Reno, Nevada in 1965 and the second in Lincoln, Nebraska in the fall of 1966. An interim report on these two seminars has been distributed to seminar participants for use and revision. State department personnl have also motivated similar study and group work related to the same problem; Pennsylvania has produced materials for distribution and use in teacher education programs throughout the state. Home economics teacher education personnel in many state colleges and universities are working with these or revised materials in developing and identifying meaningful learning experiences related to the objectives, competences and generalizations distributed as working papers by these groups.

The seminar groups stated the organizing principle for the structure of home economics education,

> Home economics education is a dynamic configuration of those intellectual processes, philosophy, and knowledge from home economics and professional education required for the development of competences needed to enable the home economics teacher or related personnel to foster the personal development and well-being of individuals and families within our society.

The same group also identified the scope of home economics teacher education. The professional component of home economics teacher education programs in cooperation with others accepts the responsibility to prepare home economics teachers and related personnel for:

- elementary school programs
- secondary school home economics programs
- secondary and post-secondary vocational technical programs
- adult home economics related programs
- administration and supervision of home economics programs
- research
- teacher education programs

Although admonished, warned and advised by outstanding resource persons to make some effort to identify the specific content and contributions to be expected of home economics education in particular there was no such effort made by the seminar group participants nor other groups working on this problem.

The thinking and materials produced by these groups include, incorporate, and build on related professional education rather than the identification of the specific structure and responsibilities of home economics education. Two reasons for using such a procedure may be:

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1. The lack of research and evaluative tools and techniques for assessing the home economics education major at the time of entering the home economics education program.

2. The variety of administrative and program structures throughout the country and among institutions offering home economics education programs, some of which put more and some less responsibility and time on the specific home economics education component of teacher education.

Consequently, the materials developed by various groups in identifying the structure and content of home economics education is a composite montage so to speak of the thinking of large and small groups of "experts" in the field concerning the total professional background and competences of the desired "product." Which brings us to an important consideration which might have been a concern of these groups: What is an effective product of the home economics education program?

Effective teaching is related to evidences of change in pupil behavior and growth. The interrelatedness of this problem is discussed by Ackerman:

> Learning is a change in behavior. A teacher is effective when he does things or behaves in ways that engender the learning of skills, understandings, work habits, desirable attitudes and adequate personal adjustment on the part of the pupils or students. Looked at from this point of view neither pupil change nor teacher effectiveness is a unitary concept....It is then more proper to speak of pupil changes and teacher effectiveness....Such a concept of pupil change must employ more than gains or losses on achievement tests as criteria of teacher effectiveness. Change must include all-round pupil growth (1, p. 284).

Efforts to relate variables such as teacher characteristics and training to various measures of pupil growth, and curriculum organizational factors to these same criterion measures have been discouraging. Research studies in the department of home economics education at Iowa State University have been concentrating for the last 8 to 10 years on predicting and determining effectiveness of homemaking teachers who are graduates of the pre-service program there. Dr. Marguerite Scruggs, whose original study and continuing interest has motivated a longitudinal study on this problem, says that they have been able to identify groups of prospective teachers for whom they can predict a degree of effectiveness but so far they have had no success in predicting individual teaching effectiveness. Many of the criterion measures used for predicting and measuring effectiveness of homemaking teachers is summarized in an exploratory study by Crabtree (2).

In spite of or perhaps because of this lack of substantiated criterion measures to identify the "product" or the effective teacher, participants in the Reno and Lincoln seminars were asked to bring objectives as stated in all home economics education courses taught in their respective universities and colleges.

Based upon these objectives identified by home economics educators, for their respective courses, generalizations and competences developed by the Pennsylvania group (3), reports of research projects in other fields of professional education for teachers, and statements of generalizations developed by the Iowa State staff in the intervening time from the Reno seminar, the participants of the Nebraska seminar developed statements of desired behavioral objectives and supporting generalizations related to the following five areas of professional proficiency for the prospective teacher and the teachers pursuing continuing or advanced study:

1. philosophy of home economics education
2. professional role in home economics education
3. planning home economics education programs
4. using the educative process in home economics education programs--teachers effectively
5. research aspects of home economics education

To understand, criticize and use the materials developed by the seminar groups and others, it is necessary to get copies of the materials and work with them at some length. In order to give an overall picture of these materials selected portions have been chosen as examples of the various facets of the materials in their present state.

Behavioral objectives and sample generalizations related to the philosophy of home economics education are:

1. It is expected that upon completion of study, the prospective teacher will be able to state beliefs about home economics education, based upon study of the philosophies of home economics and education and the knowledge of contemporary society.

2. It is expected that upon completion of study, the teacher pursuing continuing or advanced study will be able to examine assumptions held about the nature of man, the nature of knowledge, and the natur of home economics, the nature of contemporary society; and integrate these with experience in teaching home economics to develop a philosophy of home economics education.

Two generalizations which support these objectives and demonstrate two levels of content are:

1. To understand the values of others requires both objectivity and empathy. Because of the diversity among cultural groups within home economics programs, direct or vicarious contacts with those who hold widely differing values and beliefs help the home economics teacher recognize implications of own values and those held by others. (Content for prospective teachers).

2. In order to assess the impact of the changing culture on philosophical orientations of life, education, vocational education, and home economics, one needs to identify constants and trends and make hypotheses about the future of the culture. (Content for teacher pursuing continuing or advanced study).

These two generalizations although not exactly two levels of an identical content area demonstrate a hierarchy that has been developed in the material and these particular generalizations are supported to some extent by the exploratory study done by Crabtree (2, p. 115, 116).

The Pennsylvania group has described some learning experiences related to these generalizations including resource persons, films, case studies and incidents of interpersonal relationship with peers. Other institutions reported various ways of giving prospective teachers close-hand experiences with "under-class" groups at the Home Economics Special Interest Group Region II meeting held in New York City in February, 1967.

In the area of planning home economics education programs two levels of behavioral objectives expected upon completion of study are:

1. ....The prospective teacher will be able to utilize information about the learners, their homes, the community, and the larger society, in planning home economics education.

2. ....The teacher pursuing continuing and advanced study will examine social, economic and educational forces which affect individuals and families,and ascertain implications that have relevance for home economics education programs.

Other behavioral objectives in this area are concerned with the organization and sequence of content and coordination and cooperation with co-workers and various other disciplines in the total educational program.

The section on teaching effectiveness identifies behaviors and supporting generalizations in four general areas:

1. Structuring and guiding students through appropriate learning experiences so that they may arrive at an understanding of related generalizations.

2. Selecting and using a variety of appropriate methods as aids to perception.

3. Developing a classroom climate which facilitates learning.

4. Using evaluative procedures as an integral part of teaching and assessing progress toward goals.

These four areas are treated in considerable detail and a study of the interim or final report will be necessary to grasp the complete scope of this--or any of the sections.

The fifth section of the interim report identifies behavioral objectives and generalizations related to research in home economics education for home economics

education for home economics teacher education curricula. Some difficulty in isolating this section from the preceding sections is obvious. The content of all sections is built on the best we know from experience and research related to educational structure and learning. However the hierarchy of behavioral objectives is interesting and was identified as such after much deliberation:

.....the prospective teacher will be able to:
1. Become an intelligent consumer of educational research
2. Engage in practical experimentation

.....the teacher pursuing continuing or advanced study will be able to:
1. Demonstrate competence in interpreting and using research data
2. Engage in research that is relevant to home economics teaching responsibility
3. Understand the relationship between teaching and research

Careful examination of the interim report from the Nebraska seminar identifying structure in home economics education reveals very little regarding the preparation of teachers for the occupational or wage-earning aspect of home economics programs. This specific area was the concern of a three-week workshop held at Iowa State University during the summer, 1967. Thirty teacher educators and state department personnel from 20 states participated. Some desired competences were identified and many proposals for learning experiences were made. Again research correlating the learning experiences with effective teaching if a wide open field.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Patricia Smith*

Teacher education is judged by the product--the student, and how effective a teacher she becomes. This implies an expertise in methods of evaluation. Updating of present teacher education staffs and better selection of prospective home economics teachers were stressed.

Possibly the goals of teacher preparation have been wrong. Rather than develop ability there is a need to develop different attitudes--that of the need for continued learning and experimentation. Students must learn to think, solve problems and plan. They must become aware of the process of self-analysis but need the tools to use in this process.

Comparative research in evaluation, longitudinal studies, pilot and experimental programs are lacking in teacher education. Other areas of concern include; methods for evaluation, student teaching experiences, upgrading of cooperating teachers and certification requirements. Attention should be given to developing certification criteria for various levels and types of home economics teaching positions.

Discussion centered around the problem of encouraging older women to return to the labor force at a level commensurate with their past educational experience and providing them with short term, individually oriented courses. Preparation of teachers for occupational areas, certification for "middle school" teachers and pre-nursery programs also received attention.

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CURRENT DEVELOPMENT IN THE PROFESSIONAL PREPARATION OF TECHNICAL TEACHERS

Joseph P. Arnold*

Current development and innovative practices in the professional preparation of technical teachers is the topic of this paper and hopefully for the ensuing discussion. However, when one is instructed to encourage, provoke, or stimulate group participation on a topic, the content and immediate purpose of the paper itself may change. Therefore, rather than emphasize on itemization and discussion of actual innovative practices, it would seem more appropriate for this paper to be concerned with a framework of policies or statements within which technical teacher educators would be encouraged to innovate and experiment. A set of guidelines for application in the professional preparation of technical teachers will provide the main format of this paper. The guidelines were developed in and as a result of a summer institute in technical teacher education held at Purdue University under the direction of this writer.[1]

THE SETTING

A great deal of attention during the past few years has come to bear on occupational programs for the education and training of technicians and other semi-professionals who need unique preparation for employment. During this development many questions have become evident. How can more of these persons be educated? What occupations and subjects should instruction for them emphasize? How can greater numbers of students be recruited into technical programs, particularly in areas of strategic importance to the economy and defense of the nation? What course content related most directly to future job performance? These and a host of other questions have been accorded some share of the attention they deserve in the current effort to initiate and expand technical offerings throughout the nation. While considerable emphasis is placed on the development of technical programs, the problems of educating teachers to staff them has been largely ignored.

Technical teachers have been and are continuing to be recruited directly from the ranks of industry, business, and professions other than teaching. Although many of these engineers, nurses, chemists, military personnel and others thus recruited have become excellent teachers, they have been left largely to their own devices to obtain help in identifying teachable content, planning lessons, selecting teaching methods, evaluating students, and executing the many other tasks of the teacher. The junior colleges, universities, and other institutions offering technical programs have been reasonably successful in locating technical teachers, mainly from sources which have given the new teacher no pedagogical preparation. A variety of in-service training programs operated by state offices of vocational education and university teacher education departments have partially remedied the lack of professional preparation for those teachers.

ASSUMPTIONS AND CONSIDERATIONS

Because the Purdue institute was limited primarily to technical teacher preparation for post-high school and/or associate degree level programs, the

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[1]Joseph P. Arnold, Alan R. Suess, Richard C. Erickson, A Summer Institute for the Improvement of Technical Teacher Education Programs, (Project 7-0528, U. S. Office of Education, Lafayette, Indiana: Purdue University, final report due November 1967.)

guidelines and discussion are focused on professional preparation for teaching adults. Although developed for application in baccalaureate technical teacher education programs it would seem apparent that at least partial application of the guidelines to the various kinds of graduate and/or in-service preparation would be appropriate.

Consideration of professional preparation for high school technical teachers was excluded from the Purdue developed guidelines and hence from this paper. Exclusion was due to interest in and perhaps more universal need for technical teachers in post-high school and college level technical programs and is not intended to imply that programs of preparation for technical teachers in high school are not important.

A study of professional preparation for technical teachers suggests some rather important questions. Is the function of the associate degree level and/or post-high school technical teacher different from that of the vocational teacher? If certain differences in characteristics as well as function are indeed evident, how should pedagogical preparation for the prospective technical teacher differ from that provided for the vocational teacher?

The obvious similarities and overlapping functions, courses and activities are recognized as bases for teacher education programs with professional preparation which is largely common for both vocational and technical teachers. In full recognition of the many similarities between the two, it is assumed that there are indeed differences between technical teacher tasks and vocational teacher tasks which require important considerations in designing professional courses and activities. Although exceptions are easily found, the technical teacher tends to:

1. Be more concerned with the mathematical and scientific bases of the occupations of interest to his students .
2. Be more exclusively concerned with the adult as a learner.
3. Function in a broader, more sophisticated communications spectrum.
4. Work with a higher range of student abilities.
5. Need greater depth and breadth of subject matter and/or technical knowledge.
6. Be more immediately dependent upon technological advances and needs to be more capable of adapting to them.

THE GUIDELINES

Guidelines intended for use in the design of baccalaureate technical teacher education programs were developed from the presentations, group work of thirty-six institute participants, and the perceptions of the institute staff. Categories of technical teacher preparation around which guidelines were developed were: 1) Mathematics, 2) Science, 3) Technical Content, 4) General Education, 5) Occupational Experience, and 6) Professional Education. Guidelines for the last category, Professional Education, are itemized and discussed as follows.

1. Professional courses for the prospective technical teacher should focus on the adult as a learner.

This guideline is based on the assumption that the technical teacher of concern in this paper will be most likely to teach in a community college, university or other post-high school and/or associate degree technical program. Many universities and colleges are initiating technical teacher education programs in a setting previously focused on the preparation of elementary and secondary teachers. In such institutional settings extreme care should be exercised in use of existing professional courses, especially in areas such as educational psychology and methods of teaching. There are common problems, issues and methods in teaching at all levels. However, factors such as motivation, pace of instruction, and teacher use of examples and illustrations are quite different for first graders than for the more mature technical students. Consequently, the pedagogical aspects of the technical teacher education program should be based largely on consideration of the adult as a learner.

2. An integrated sequence of professional courses should be designed to provide the prospective technical teacher with an understanding of the methods and problems associated with technical teaching.

A professional course early in the baccalaureate program should introduce the prospective teacher to the nature and problems of technical teaching. Sequencing and integrating pedagogical content are strategic factors in leading the student from an orientation to the nature and problems of teaching through the educational psychology, course construction, methods of teaching, or other professional courses which precede and culminate in a supervised teaching experience. The integrated sequence of pedagogical content should emphasize application of scientific and technical knowledge in practical classroom and laboratory situations.

Many currently experimental practices should be considered to demonstrate, review, and evaluate student performance in professional courses and student teaching. Micro-teaching as advanced by Allen[2] and long term video tape monitoring are two examples of innovations for possible inclusion.

The learning systems concept presented in a previous conference by Stewart[3] merits study and attention by technical teacher educators. Basic to the system is the need for precise definition of all course objectives followed by appropriate testing in relation to the behavioral changes resulting from learning. A large number of school failures are caused by poorly defined objectives and poorly accomplished testing and evaluation. Teachers should be relating all teaching to measurable behavior changes and testing students accordingly. Utilization of Stewart's concepts in pedagogical preparation would involve and stress design of course objectives which define measurable behavioral changes, hence forcing a closer relationship between professional courses and performance in teaching.

Advanced technical courses can be structured to contribute to future effectiveness as a teacher, probably without sacrifice in the amount of technical content learned. For example, demonstration of test equipment can draw attention to how to teach others to use the equipment.

3. The evolution and function of technical education should be included in the technical teacher education programs.

The technical teacher should understand the role and function of technical education in the educational spectrum. This understanding should assist in the development of a consistent and enlightened point of view toward the goals of the technical teaching objectives. If the prospective teacher is equipped with a defensible purpose, then course construction activities, student teacher relationships, inter- and intra-faculty associations are all likely to acquire a consistent direction.

4. A supervised teaching experience or teaching internship should be completed (in the appropriate technology) as a part of the technical teacher education program.

A variety of possible approaches to providing a suitable supervised teaching experience typically revolve around student teaching and internship. Student teaching for credit under the supervision of a competent technical instructor is probably the most economically and administratively feasible approach, particularly for new programs. However, requiring completion of a carefully planned and operated teaching internship would provide a more complete exposure and experience in technical teaching. A third, perhaps supplemental but important consideration is the possible involvement of students as laboratory or teaching assistants.

Several teaching internship programs which relate rather closely to technical teaching are in operation or in preparation, three of which will be mentioned here. The Ford Foundation supported CORE program, conducted by the Junior College District of St. Louis and Southern Illinois University, is designed to develop teachers for post-high school semi-professional or career programs.[4] Selecting from among candidates with bachelor's and some with master's degrees, the program provides a one semester teaching internship and stipend aimed at developing teaching competency for employment in junior colleges.

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[2]Dwight W. Allen, "Micro-teaching: A new Framework for In-Service Education," High School Journal, (49: 355-62; May 1966).

[3]Donald K. Stewart, A Learning Systems Concept as Applied to Courses in Education and Training, (unpublished paper presented at Educational Media Conference, sponsored by The Center for Research and Leadership Development in Vocational and Technical Education, Columbus, Ohio: The Ohio State University, July 1967).

[4]Teaching Internships - CORE Program, (the Junior College District of St. Louis and St. Louis County, Clayton, Missouri). (Not dated.)

A parallel program outside the technical and/or semi-professional areas is the Intern Teaching Program for college graduates.[5] This program is operated at Temple University and provides state certification, professional qualifications, and the master's degree for college graduates of liberal arts fields who are interested in public school teaching.

The third program is the Professional Internship in Vocational-Technical Education, which is in its developmental stages at Michigan State University.[6] The program will lead to the minimum of a baccalaureate degree and full professional status in education for candidates. Perhaps the main distinguishing and promising characteristic of the planned program is its complete focus of professional courses and activities on the teaching internship as the central culminating experience in preparation of the teacher. A special pre-internship program has the purpose of preparing the student for the semi-autonomous role of intern teaching.

CONCLUDING REMARKS

Summarizing statements would at this point do little to provoke the thought and discussion as it was hoped this paper would accomplish. Several questions relating to the guidelines submitted herein and to other aspects of professional preparation are considered appropriate. These questions are:

1. How can professional content be selected, arranged, and taught to contribute to teaching effectiveness of the prospective teacher?

2. Which tasks of the prospective teacher should be stressed and provided for in professional preparation?

3. Can student teaching and/or internship really contribute effectively to teaching effectiveness?

4. What supervisory structure and placement, operational and administrative procedures will maximize the effects of the supervised or intern teaching?

5. What is the relationship of occupational experience, general education, and other background of the student to professional preparation?

6. How can the increasing number of mechanical and electronic devices at our disposal be harnessed to improve the efficiency of professional preparation of the prospective technical teacher?

The shortage of technical teachers is well acknowledged among the group attending this seminar. Agreement on how to alleviate the shortage is in some ways unimportant. Whether the bulk of the technical teachers ten years hence are obtained directly from industry and business, from formal teacher education programs, or from other sources will depend on the success of the many programs currently being planned and implemented. It is a plea of this paper that whatever the sources, the teachers should enter the profession with quality professional preparation which will enhance teaching effectiveness at time of employment rather than several months or years later.

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[5] Intern Teaching Program for College Graduates, (Philadelphia, Pennsylvania: Temple University, Fall 1965).

[6] William E. Gleason, Dwight E. Davis, and Jacob Stern (Dir.), Professional Internship in Vocational Education: Summary of a Working Conference, (Department of Secondary Education and Curriculum Research and Development Program, Lansing, Michigan: Michigan State University, 1967).

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

James G. Bennett*

Some concern was evidenced by participants over the emphasis placed on the adult learner in Dr. Arnold's presentation. Dr. Arnold noted that the emphasis was due, principally to the growing involvement with post-secondary institutions. One participant stated that "we shouldn't look at technical education as existing only on the post-secondary level. Many programs are operating on the high school level. Quality technical programs are needed on the high school level. We may be short changing our youth. Post-secondary programs should build on high school programs and not duplicate them."

It was brought out that the two areas wherein technical teachers are lacking are pedagogy and new technological advancements. Suggested courses of action to improve the teaching within the professions (engineering--medical) were; the development of more professional, high quality courses and teaching improvement projects such as micro-teaching and video recording implementation. It was noted that professional courses can be offered to heterogenous technical education majors. These courses could place emphasis on principles common to all enrollees. Information differentiation could occur in the application phase of the course work. Advisor groups might be utilized on the teacher education levels to improve teacher education programs. Committee members might be made up of potential employers.

The following were designated as technical content competencies:

1. Depth and breadth in technical courses beyond that required of the graduates of the program in which employment as a teacher is antitipated.

2. Technical content which is integrated with science, mathematics, communications, and professional courses.

3. Technical content should be distributed and scheduled throughout the entire span of the teacher education program.

4. Technical content should reflect a laboratory emphasis which strongly relates to the technical occupational objective of students in the type of occupational program for which the prospective teacher is preparing.

   Technical content which is common and/or beneficial to several major technical areas should be formulated into core courses for teacher education students in these areas.

6. Industrial experience in excess of one year.

Several participants posed the question of how successful the engineer recruited from industry works out as a technical teacher of technicians? It was noted that he is weak in organization and doesn't necessarily have the answers for technicians.

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EMERGING APPROACHES TO THE PROFESSIONAL EDUCATION OF TRADE AND INDUSTRIAL TEACHERS

Ralph C. Wenrich*

My assignment is to give a 15 to 20 minute presentation which will "take off" from the discussion of the first general session this morning where Dr. Haskew and others discussed emerging approaches in the professional education of vocational and technical teachers in general; I am to relate my comments more specifically to trade and industrial teacher education.

My interest in the problem of improving the professional component of trade and industrial teacher education goes back to 1934 when I did a master's thesis at Penn State (under the direction of Dr. F. Theodore Struck) on the subject "An Evaluation of Professional Industrial Education Courses As To Their Usefulness in Teaching."

We can look at the professional preparation of T & I teachers from either an idealistic or a realistic point of view; if we had an adequate supply of persons interested in preparing for a career in this field, we might then take a somewhat more idealistic posture on the matter of professional preparation. But since there is a tremendous demand for teachers in this field we must, I think, often settle for something less than the ideal program. It is for this reason that I felt Dr. Haskew's reference to "spot preparation" was especially relevant to the professional preparation of trade and industrial teachers. You will recall thatDr. Haskew stated that "spot preparation" begins with a teaching spot to be filled by relatively large numbers of people on short notice. Properly-prepared persons are not available to meet the need, but the positions are made attractive enough to enable recruitment of people willing to attempt the assignment. In the case of trade and industrial education the recruits may come from education, but more often they are from industry.

In order to serve the needs of these recruits we have sometimes planned for them short-term vestibule training programs, after which the recruit enters the teaching position for which he was trained. Unfortunately in all too many cases in trade and industrial education he goes directly into the teaching situation without any "spot preparation." Frequently persons who have made the initial entry into the teaching profession through "spot training" continue their professional education; we have then, a combination of both pre-service and in-service professional teacher education.

It might be helpful in this discussion for us to define the term, professional preparation, whether pre-service or in-service. Does it include more than "the tricks of the trade" of teaching? Should it include observation and practice teaching? To what extent should it include general education? For example, should a T & I teacher be expected to understand the role of the public schools in our society and what should he know and understand about the society itself, especially the economic, political and social aspects?

Another question to which we might address ourselves during this discussion is: when should a trade and industrial teacher receive his professional preparation. I assume that most of us would agree that a T & I teacher needs to be both occupationally competent and professionally qualified. Should his professional preparation come after he had acquired a satisfactory level of occupational competence or should he acquire his occupational competence at the same time he is achieving his professional preparation? Traditionally, most T & I teachers come from industry into the teaching profession with a satisfactory level of occupational proficiency and acquire their professional attitudes and competencies later. Would it not be better to design programs of teacher education so that the development of occupational competence and

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professional qualification would occur simultaneously, or during alternating periods? The cooperative occupational training programs, operating in a number of institutions throughout the United States, attempt to combine both phases into a unified teacher education program; internship programs have some of the same features and potential advantages.

It has now become clear that occupations in our labor force, including those in the trade and industrial field, require less emphasis on the manipulated skills and a corresponding increase in emphasis on understandings and attitudes. Do we now in our professional preparation of T & I teachers give sufficient emphasis to the teaching of cognitive and affective learnings? Or are we preoccupied with the task of training the teacher to pass on the manipulative skills of his trade?

If we are seriously interested in improving the quality of the professional preparation of trade and industrial teachers, it seems to me we might do well to consider taking such steps as these:

1. We should make a clearer differentiation between industrial arts and vocational industrial teaching education. While both programs can be offered successfully in the same school or department, differences in purposes must be recognized and different learning experiences should be provided to prepare teachers in each of these two important fields.

2. Closely related to number (1) above, we should define our objectives in terms of performance criteria. We must be clear on what our purposes are and define these in terms of measurable outcomes. Programmed instruction requires that we define our objectives, but programmed or not, we must be more specific about our goals. On this subject I would recommend Robert F. Mager's book, Preparing Instructional Objectives.

3. We must take full advantage of some of the new trends and developments and use the new educational technology in the development of professional courses. Included among these are flexible scheduling, team teaching and micro-teaching, which involves the use of video tapes.

4. We must recognize that the trade and industrial teacher may serve in a number of different roles; he is the imparter of skills and knowledge, to be sure. But he should also serve as a creator of favorable learning environments; a counselor of youth and/or adults, a contributor to curriculum change, a coordinator who works with industry, and a placement officer who places and follow-up his graduates and drop-outs. To what extent do our professional programs prepare the trade and industrial teacher for these and other roles which go beyond that of an imparter of skills and knowledge?

5. We might expect that larger school units or administration for vocational and technical education (including area vocational schools and centers) will create the need for "teams" of persons to provide instruction in a given occupation. Instead of one or two teacher departments for a particular trade we can expect to have a team of specialists, which might include a master professional teacher (possibly with one or more graduate degrees), professional teachers (with lesser qualifications), teacher interns, teacher assistants and shop or laboratory technicians. The programs of professional preparation in our teacher education institutions should recognize the need for a variety of specialized personnel needed to staff these multi-person departments.

Before closing, I must comment on another point made by Dr. Haskew. He said that, although vocational teacher education is a special case, it may not be of such specialty it can be oblivious of certain powerful trends evidently running in the world of teacher education. One is "the growing concern of the organized teaching profession with who bears licensure as a member of that profession," and another trend is "toward attaching greater and greater moment to academic credit as essential undergirding for everyone who teaches." If trade and industrial education is to continue to function within the "educational enterprise" it appears necessary for us to design our teacher education programs of the future so that the T & I teacher's credentials will be expressed in terms recognized and accepted by the education profession. Another possibility is that such standardizations of teacher education may force trade and industrial education to look for a home outside the "educational enterprise." Other federal and state agencies, more directly concerned with manpower needs and less concerned about academic achievement and intellectual development, might be more congenial hosts for trade and industrial education than the public schools.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Ray Reisenger*

The central theme which flowed through the group discussion appeared to be a concern regarding the interrelationship of the present inadequate supply of T & I teachers, the rising educational requirements for teachers in general and the need for rapid improvement in techniques and programs which can develop the supply of competent teachers.

Questions which concerned teaching requirements and the objectives of professional teacher education programs appeared to be academic to the discussion participants. It was reported that the changing role of the T & I teacher in emerging area programs, cooperative teacher trainee programs, new hardware such as videotapes used in teacher training, in addition to the increasing demand for teachers all have tended to reduce teacher education programs to the bare essentials.

The academic credentials of the T & I teacher were cited as becoming more important within the educational community as the teaching profession continues its thrust toward more and more professional preparation. Allowing collegiate credit for occupational experience was cited as one way to improve the academic credentials of T & I teachers. Representatives of many institutions reported that they were doing this and had been for several years.

The new hardware being used to train teachers was of considerable interest to the group. Questions were asked about the use of videotapes, micro-teaching projects and other processes in use which could be shared by all. It appeared that a few members of the group were in the developmental stage in using such equipment and were not prepared at this point to make progress reports or to evaluate their programs.

The Oak Ridge Associated Universities (ORAU), a non-profit corporation of forty Southern universities, has joined hands with the U. S. Atomic Energy Commission at Oak Ridge, Tennessee, to provide industrial teacher training. A brief discussion of this approach revealed that the colleges were coordinating the activities of industrial personnel who were using industrial facilities to provide industrial teacher training. The cooperation was said to be producing a supply of people with the essential occupational experience and educational potential needed for teaching in T & I programs.

The group was interested in discussing programs which were using a cooperative approach to meeting the needs for T & I teachers. Some colleges were reported to be placing their students in industries and supervising this occupational experience cooperatively with industrial employers. It was pointed out, however, that this method used to obtain the necessary trade experience often means losing the trainee to industry. The general feeling was that cooperative approaches to teacher education were worth the effort if they added to the supply of teachers available.

Some suggestions for expediting the selection and preparation of teachers were:

1. To identify teaching talent earlier within the trades and to involve this talent in pre-service teacher education programs.

2. To consider revision of teacher certification requirements if an adequate supply of potential T & I teachers is not produced.

3. To continue the research efforts being made in developing performance tests for selection of T & I teachers.

4. To continue efforts being made toward developing the essential curriculum information needed for teacher education.

5. To disseminate through professional organizations any information concerning videotaping and use of new hardware which can improve teacher education.

6. To consider giving collegiate credit for trade experience and allowing this credit to be used toward certification and baccalaureate degrees.

7. To disseminate through professional organizations any information about successful cooperative T & I teacher education programs.

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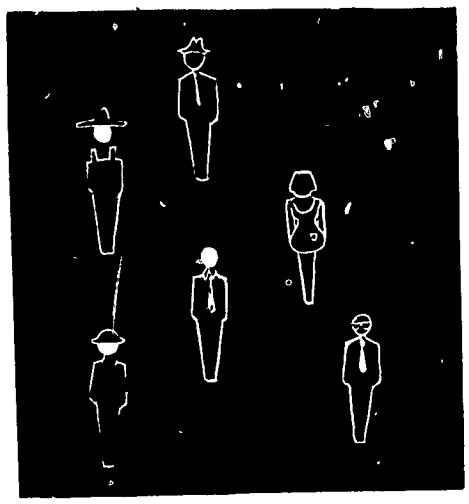

CONTRIBUTIONS OF THE BEHAVIORAL SCIENCES TO TEACHER EDUCATION

CONTRIBUTIONS OF THE BEHAVIORAL SCIENCES TO TEACHER EDUCATION

Ralph W. Tyler*

The use of the term "behavioral sciences" has largely developed in the last twenty years as a label to cover most of the sciences that are primarily concerned with the study of human behavior. They include biological studies, such as neurophysiology, psychiatry, human ecology; social studies, such as anthropology, economics, history, political science, psychology, sociology; and some scientific studies of behavior in humanistic fields, particularly in aspects of philosophy and literature. In its narrowest usage, the term "behavioral sciences" refers to anthropology, social psychology, sociology, and related interdisciplinary fields. During the past decade or two, major developments have included not only the great increase in numbers of investigations of human behavior and a corresponding increase in findings, but also the emerging conceptions of the human being and his potential, of social organizations, and of the individual's relations with others. These ideas and the new data pertaining to them have important implications for the conduct of teacher education.

An attempt to make a systematic review of all these developments would be superficial both because of time limitations and because of the limitations of my own competence. What I shall do is to pick out the developments with which I am familiar and which seem to me to have significant implications for teacher education. I hope that we shall be able to examine these illustrations in our discussion to explore further their usefulness.

THE NATURE OF THE INDIVIDUAL

In the effort at the turn of the century to transform psychology from a speculative study to a science, the traditional concepts of soul, spirit, and even mind were discarded. The human being increasingly was regarded as an organism responding to stimuli rather than initiating encounters with his environment, except for recognition of physical drives similar to those in other animals. The design of most psychological experiments assumed that humans were largely incapable of autonomous action; consequently, their behavior could be largely, if not wholly, understood as response to aspects of their environment which were outside of their control. It was assumed that the drives within the individual could easily be set in motion by outside manipulation. It is still recognized, of course, that the biological functioning of a human organism largely guarantees drives to satisfy inadequate biological conditions. When hungry, man will generally seek food; if thirsty, seek water; if denied opportunity for sexual expression, will seek it. But these biological drives represent only a small part of human motivation, particularly for men whose biological functioning is not limited by shortage of food, water, or other essential conditions.

Investigations designed to assess human motivation and the direction and energy used in behavior indicate that the individual is a dynamic organism; he brings to situations in life an active personality directed not only by basic biological drives and needs but also by values and purposes. Values which appear to be learned because they are developed by the individual over time are found to furnish a major explanation for the direction of human behavior when the individual is in situations in which the basic biological conditions have been met. The values held by the individual are not as easily manipulated by others as are the physical conditions under the control of the experimenter working with animals. Furthermore, the human individual whose biological needs are met actively explores his environment and seeks encounters with it rather than being directed chiefly by external stimuli.

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The picture of the human individual which is now emerging is one of a dynamic organism, acting in ways which help him attain his values as well as seeking to meet basic biological needs. Although it is possible to set up conditions under which he acts as though he were simply a pawn of circumstance, manipulated by persons and forces outside of his control, much of the individual's behavior can be explained as an active effort on his part to manipulate his environment to attain his values. This conception has led to many new investigations of perception since the ways in which the individual perceives himself and the external environment appear to be important factors in directing his behavior. It has led also to new research on personality and personality development in effort to understand the dynamics of the individual.

CURRENT STUDIES OF PERCEPTION

What one perceives has traditionally been thought to be a straightforward interpretation of some or all of the sensations received from the sense organs. It was commonly thought that one's perception of a class of objects or events developed gradually over a long period, becoming increasingly comprehensive and accurate as one had more and more opportunity to observe the phenomena. This explanation of perception was relatively simple. More recently, however, investigations of several kinds have given new understanding of perception and an appreciation both of its central role in behavior and of its complexity.

Studies in visual perception demonstrate that perceiving such basic factors as distance, depth, and vertical or horizontal orientation is learned and that the individual can relearn so as to interpret accurately external conditions when wearing lenses which markedly distort the visual stimuli reaching the eyes. Under such circumstances he learns to interpret the visual impressions in relation to his active exploration of the environment, that is, he learns to see the environment in a way that enables him successfully to make the movements he is attempting, in spite of intervening distortions.

A second line of investigation indicates that one's perception of objects, persons, or events takes shape during early contact with them and commonly remains fairly stable in spite of many later opportunities to check the inadequacies of the initial perception. Thus, children may develop early the notion that the sea is blue partly, perhaps, from observing it when it was blue and partly by the suggestions of others, as in paintings. It is found that most children continue to "see" a blue sea even when asked to observe it when it is clearly gray, or brown, or green. Or, children at an early age may develop the notion of a janitor as a thin, stern, and complaining man. This perception often continues to operate even when asked to observe janitors who are, to an objective observer, fat and jolly. Perception of both physical and social phenomena is quite likely to be stereotyped, in spite of many opportunities for correcting the inadequacies of earlier perceptions.

Another significant feature of human perception is the fact that it can be influenced by others. Studies in social psychology demonstrate the extent to which the individual's perception both of physical and social phenomena is affected by the way in which friends or respected associates perceive them. For example, in a typical experiment, an event is enacted before a group. Each member of the group is asked to write down the significant things he observed. The reports do not vary greatly from the objective record. On the other hand, when the same event is enacted before a group and an influential member, who is one of the experimenters, reports aloud certain features he "saw" which were not actually present, a considerable fraction of the group will then report the same perception of the event.

The importance of greater understanding of perception lies in the fact that the individual deals with the world as he perceives it. He also is influenced in his behavior by the way in which he perceives himself. His effectiveness as a person, therefore, is dependent to a considerable extent upon the validity and accuracy of both his self-perception and his perception of the external environment. Valid and accurate perception does not necessarily develop through many or long-continued experiences. Initial faulty perceptions tend to remain. Fortunately, more adequate ways of perceiving can be learned and this suggests a role of education in assisting with the learning process.

PERSONALITY RESEARCH

Increasing recognition of the extent to which the individual initiates activity and attempts to manipulate his environment has heightened scholarly interest in understanding more about the nature and operation of the human personality. Current

personality research is proceeding on many fronts.. One, most closely related to research in perception, is the investigation of the concept of self and of the environment held by different individuals. An important difference among people is the degree to which they see the environment as something out of their control and to which they must adjust, or as something which they can handle for their own purposes. Even among small children, differences are found which appear to be related to their early childhood experiences. This view of self affects the approach the child makes to the school experience, that is, in seeing his role as active or passive.

Another significant dimension of personality is the degree of flexibility or rigidity evidenced in the ease with which the individual shifts his method of attacking problems when the initial attack does not succeed, or the extent to which he changes his perspective or point of view in harmony with new information or to understand the points of view of other people. Rigidity, as thus assessed, is related to the individual's view of the world in terms of sharply defined opposites, such as black and white, right and wrong, or correct and incorrect, as opposed to the recognition of the complexity of the world and the changing and developing nature of knowledge. The college student, for example, who is assessed as rigid, thinks of learning as finding and remembering the answers to questions. There are right answers which scholars have discovered, and the student's role is to find these answers in books, lectures, or in laboratory exercises and to remember them. The flexible student is more likely to approach learning as a task of constructing explanations or solving problems and to be creative and imaginative.

Some personality research is concerned with studies of individual interests and values because these throw light on motivation and the direction of behavior. Persons differ in the extent of their interests in objects, people, construction activities, theoretical ideas, practical problems, aesthetic qualities, altruistic tasks, social recognition, and the like. These interests and the values inferred from them are found to be correlated with occupational and educational choices and with the kinds of achievement recorded in school and college.

One area of personality research which is currently receiving much attention is that of individual motivation to achieve; that is, to be successful in what one undertakes. Studies of young children show that some mothers withhold immediate gratification of children's needs until an assigned task has been completed. As the child completes the task, he is rewarded with a show of affection and comments on how good he is. Child-rearing practices of this sort are thought to explain the greater extent of achievement motivation among children from middle-class homes than among children from working-class homes where such a regimen is less frequently found. By the time children enter school, wide differences are found in the degree of achievement motivation, the kind of motivation on which most teachers heavily depend to give direction to school learning.

Still another line of personality research is investigating the characteristic ways in which individuals utilize emotional resources and channel the expression of feelings which are socially unacceptable or unacceptable to the individual. Some persons are able to draw on their emotions for energy used in thought and action and for the color and satisfaction of everyday experiences. Others appear to be in continuous conflict with their emotions, sometimes finding their expression enervating and sometimes fearing that their expression will be unacceptable. Effective channeling of aggression, anger, love, and fear, is difficult for many. Freudian theory has been the basis of much research on emotions, but there are other theoretical positions which also are guiding current studies. Because of the importance of emotional expression in the dynamics of the individual studies in this area, they are certain to provide greater understanding of education. The school is the environment in which children live an important fraction of their lives. It should be an environment which encourages the development of a rich emotional life and helps each child find acceptable ways of expressing his genuine emotions.

The five areas of personality research briefly outlined in the preceding paragraphs are not all the fields now under investigation. They are mentioned to illustrate the variety of investigations under way and to suggest the kinds of studies which appear to have implications for education and the school. One other kind of finding appearing frequently in current work is that personality factors do change and develop and that patterns of personality can be learned, although not as easily as specific habits can be acquired. Hence, personality factors can be viewed as among the ends of education as well as important influences upon the direction and extent of learning.

IMPLICATIONS OF FINDINGS REGARDING THE INDIVIDUAL

Some implications for teacher education are obvious, others we shall need to work out. In the selection of candidates for teaching, to what extent are values and

interests considered? Is the educational program itself concerned with the development of values that are important in teaching? Is the program linked to the current values and interests of the students, and does it provide opportunities for student initiative in exploring new ideas and new behavior?

Do we know the extent to which our students have distorted perceptions of people and things that are significant in their own work as students and teachers? Does our program of teacher education furnish opportunities for developing more accurate perceptions? What do we know regarding significant factors in the personalities of our candidates for teaching? Do they deal with the world and their own lives actively or passively? Are they flexible in their approach to problems or rigid? What types of real interests do they have? Does our educational program take these facts into account, capitalizing on constructive interests and encouraging active, flexible approaches to problem-solving by our students?

RESEARCH ON HUMAN LEARNING

More recent studies of human learning have dealt with the acquisition of complex forms of behavior rather than concentrating on rote memorization or simple skills. These investigations combined with what educational practitioners have learned from experience provide us with knowledge about the conditions under which effective learning takes place. In reviewing published materials, one will find a number of lists of essential conditions but most of the lists contain very similar elements.

CONDITIONS FOR EFFECTIVE LEARNING

One necessary condition is student motivation. The learner learns what he is thinking, feeling, or doing. Hence, learning is not possible except as the learner himself is involved in it. This makes his motivation, that is, the impelling force for his own active involvement, a very important condition.

A second condition for effective learning is that the learner finds his previous ways of reacting unsatisfactory so that he is stimulated to try new ways of reacting. As long as the learner does not recognize that earlier modes of behavior are inappropriate, he will keep on doing what he has been doing before and will not really learn anything new. Hence, it is necessary that the learner discover the inadequacy of his previous behavior so that he will not continue to repeat it. College students often carry over from their earlier school experiences the notion that study is memorization and when called upon to study in college courses, they try to memorize textbook materials. It is necessary for the college teacher to help the student discover that memorization is not a satisfactory means to solve the kinds of problems or do the sorts of exercises which the college class requires.

A third condition is for the learner to have some guidance of the new behavior which he tries in seeking to overcome the inadequacy of previous reactions. If he simply tries new behavior by trial and error, learning is very slow and he is often discouraged and gives up. Some means of indicating to him more promising reactions serve to guide him. Many ways are used to guide the learner in helping him to understand. Parts of syllabi, textbooks and manuals may be prepared or selected for this purpose. The instructor may ask questions which lead the student to look at various factors that he may have previously overlooked in his search for meaningful relationships. He may be aided in learning a skill by direct demonstration. These are only a few illustrations of the many common methods used in guiding behavior in learning.

A fourth condition for learning is for the learner to have appropriate materials to work on. If he is to learn to solve problems, he has to have problems to attempt to solve; if he is to gain skills, he must have tasks which give him opportunity to practice these skills; if he is to gain appreciation, he must have materials that he can listen to, see, or respond to in other appreciative ways. When students have only the textbook and the classroom lectures, they do not have enough of the "stuff" for study, that is, the problems, the exercises, and other materials to think about, to work on, to practice on to provide the necessary learning experiences.

A fifth condition for effective learning is for the learner to have time to carry on the behavior, to keep practicing it. This is usually referred to as "having study time." Often colleges assume that the student is spending time in study outside the classroom, when observation or interview will indicate that the student thinks that if he comes to class and spends a half hour or so outside, that is all that is required to learn. A more effective provision of study time is important for high-level learning to be reached. Studies of college students indicate that time which is presumed to be available for study is often occupied in commuting, outside work, extracurricular

activities and social activities. Imaginative and realistic ways of providing study time can make a contribution to the effectiveness of teaching.

A sixth essential condition for learning is for the learner to get satisfaction from the desired behavior. As the learner interacts in the various learning situations, the reactions which give him satisfaction are continued; those which do not give satisfaction are dropped from his repertoire of behavior. If the learner wants very much to acquire a certain kind of behavior, such as understanding or a skill, the actual satisfaction of getting the understanding or skill is sufficient. On the other hand, teachers are in a position to help learners derive satisfaction from desired behavior when this satisfaction does not automatically follow progress in learning. For example, to become competent in a foreign language so that one can read stories or articles in that language takes a long time. In the interim, the teacher may exercise a considerable influence by complimenting the student on his efforts, by helping to get group approval of reasonable progress, by providing tests or other means for him to perceive that he is progressing toward his goal. These are but illustrations of the ways in which the teacher may increase the effectiveness of learning by helping to see that students get satisfaction as they make progress toward the desired goal.

A seventh essential condition for learning is opportunity for a good deal of sequential practice of the desired behavior. Sequential practice means that each subsequent practice goes more broadly or more deeply than the previous one. Sheer repetition is quickly boring to the learner and has little or no further effect. Only as each new practice requires him to give attention to it because of new elements in it does it serve adequately as a basis for effective learning. This is important for the student in gaining understanding because it means that concepts and principles are brought in again and again but each time in new and more complex illustrations so that the student continually has to think through the way in which these concepts or principles help to explain or to analyze the situation. It is important in the development of the skill to see to it that each new practice of the skill provide opportunities for greater variety or complexity in its use. It is also true in the development of appreciation, for it means that each new work of art should be demanding something more of perception and providing opportunity for a greater variety and depth of emotional response.

An eighth condition is for the learner to set high standards of performance for himself. One of the common difficulties of college is that the student may become satisfied with mediocre performance and no longer put forth effort to learn. This is a common problem with the more able student. It is often necessary to help the student to acquire standards of performance that for him are high but attainable and to lead him on continually to seek greater excellence. One may ask of any teaching program about the kinds of standards that the students are expected to meet and how far they are relevant to the individual differences among the students in the class.

The ninth and last of the conditions is related to the eighth, to continue learning beyond the time when a teacher is available, the learner must have means for judging his performance to be able to tell how well he is doing. Without them his standards are of no utility.

IMPLICATIONS OF RESEARCH ON LEARNING

Although a considerable part of the education of teachers takes place in situations in which we have limited control, we do plan the curriculum and we do conduct courses for prospective teachers. To what extent are the learning experiences of the curriculum planned and conducted so as to establish these essential conditions for learning? It is the student's behavior that determines what he learns. We cannot learn for him. We can only stimulate, encourage, guide, and reward the learner in his efforts to acquire the behavior essential or helpful to him as a prospective teacher. The conditions outlines above suggest ways by which we can more effectively help the student to learn.

OTHER FACTORS INFLUENCING LEARNING

In addition to the research directed at understanding the process of learning, some current studies focussed on other problems have obtained results which verify the common view that there are important factors influencing learning which are not directly under the control of the teacher. The institutional expectations as perceived by the students, the peer groups to which the student belongs or whose members he respects, and the attractive personalities with whom he identifies are found to exert an influence on the direction and amount of learning. Most schools and colleges impress upon the students the kinds of persons valued by them and the kinds of achievements expected of them. In some places, intellectual achievements are highly valued; in some, athletic

prowess; in some, social skills; in some, friendliness. In general, it can be said that the institutional emphasis which is perceived by the students affects the nature and extent of their efforts, either positively or negatively.

In most schools and colleges, the friendship groups of students are varied in their composition, and each group may openly or tacitly indorse different standards. Some may support the educational purposes of the school; some may emphasize social activity or other behavior which is largely irrelevant to the work of the school and often distracts its members from educational endeavors. Peer groups sometimes are in rebellion against the school or members of the staff. The attitudes of friends can substantially affect one's actions, materially facilitating or impeding learning.

As children grow up, they commonly find persons in their environment to whom they are attracted and frequently attempt to emulate their behavior. This process can exert a significant influence on learning and is particularly potent in helping the child develop new attitudes and attempt new activites as he observes the behavior of persons attractive to him.

Current research on learning is providing new understandings of the process by which individuals acquire new behavior both within and outside the classroom. It is now possible to consider the total environment of the school in seeking to increase the effectiveness and efficiency of learning.

RESEARCH ON SOCIAL GROUPS

During the past twenty years, the study of social groups has occupied the interests of many behavioral scientists. This research has greatly clarified the significance of human groups in their relation to individual behavior. Man is born into a family. All of his earliest potent experiences involve at least one other person, usually his mother. Much of his early exploration outside the home takes place with the children of his own family or of the immediate neighborhood. The school, the church, the playground, the working situation, to enumerate only a few, are all contexts in which life is lived, and they are all group contexts. The bulk of the investigations show that groups influence individual behavior profoundly as the individual, at the same time, is influencing the group.

Studies have shown that most groups attend both to the recognized purpose for which they exist and to the emotionalized social relations within the group. When the group social relations are under tension, or when the individuals are uncertain or unhappy about their status in the group, there is little progress in attaining group purposes. Where group relations are stable and individuals are clear about their status and find it acceptable, group morale is high; the group is in excellent condition for pursuing its basic purposes. Recent investigations have indicated the importance for effective group action of the congruity between an individual's and the group's conception of an individual's social role. If individual A thinks of himself as the one to contribute ideas to the group and if the other members of the group consider that to be his role, his ideas are quickly incorporated into group thinking; but if they think of him as aggressive, trying to show off rather than to help the group, his ideas are ridiculed or attacked rather than accepted, and the group benefits little from them. Or, if individual B thinks of himself as the group "disciplinarian," the one who whips the others "into line" and if the other members of the group consider that to be his role, the group gets "into line" when he "goes after them" and is mobilized quickly for action. On the other hand, if other members of the group think of him as a "bully" or a "false front," his efforts bring greater confusion rather than mobilization of forces.

Studies also suggest that it is commonly in the various small groups of which an individual is a member that greatest development and modification of behavior takes place. Purely formal membership in a school, or church or political party, or labor union, or other organization means little compared to the influence of the family, the gang, the friendship group, the small "outfit" with which he works, and the like. These groups provide the vital environment in which significant changes in attitudes, habits, and practices may take place. A wealth of detail is developing from current research regarding the conditions under which groups form, the typology of groups, how their directions are set, how they grow and change, and the conditions under which they die. Since teacher education involves the activities of small groups in many contexts the findings of studies of this sort have significance for us.

IMPLICATIONS OF RESEARCH ON SOCIAL INFLUENCES

Many of the implications relate directly to our responsibility for helping prospective teachers to acquire teaching competence. What is the college or

university attitude toward teaching and teacher education? If negative how can we help to change it or to develop among prospective teachers a sense of missionary zeal in a somewhat antagonistic environment? Can we aid in the development of peer groups interested in teaching and in acquiring teaching competence? Can we find or help to establish other small groups that can facilitate teacher education? What can we do to exploit the constructive influences of established groups? Can we see that each student has available for his own identification, several constructive personalities that he will be likely to seek for a time to emulate? In what other ways can we utilize social influences in the education of teachers?

SOCIAL CLASS AND OCCUPATION

Groups of small size are not the only ones which influence human behavior. Such groups as social classes, large-scale organizations, and those based on occupational status are also important. Several comments have been made on the changing nature of social stratification in modern society and of the fact that today a large majority of Americans who, by income criteria, must be classified as "middle class" are still further differentiated in terms of distinct culture on the basis of occupational and educational status. Current research indicates that the modern community usually includes within it several social classes, typically three or more. A social class is defined as a collection of people of similar level of social prestige and public respect, but a class so defined can be identified most readily according to educational levels and the kinds of occupations represented. The families of skilled and unskilled laborers with limited educational background commonly comprise the majority of the so-called lower-middle and upper-lower classes, while the families of professional and managerial people, most of whom have a college education, are commonly in the upper-middle class. From the standpoint of their influence on human behavior, there are two major characteristics of this social class structure: a.) each social class sets a pattern of "conventional" or acceptable behavior for its members, and b.) the hierarchy of social classes in terms of social prestige or public respect forms a ladder to direct the actions of members of a lower social class who seek to rise in public esteem and social recognition.

The pattern of acceptable behavior in a given social class is often called its "culture." It includes certain values which are preferred to others, certain attitudes which characterize its members, certain language patterns, including vocabulary, and certain ways of getting things done. The culture of one class differs in various respects from that of another. Among children of lower classes, fighting is an approved form of behavior. The use of certain four-letter words is acceptable in some classes and not in others. Sharp differences in etiquette, dress, table manners, and the like, are noticeable. Many parents in lower-middle classes desire higher prestige for their children. They often find cues for educating children for upper-middle-class status by observing the models of middle-class behavior shown in movies, television, radio, magazines, newspapers, and the like. Thus, the hierarchy of social classes exerts a powerful directive influence on those who seek to climb the "social ladder." The influence of social classes does not negate the earlier statement that small groups commonly exert the most powerful influence on individual behavior. Patterns of behavior set by social classes usually reach the individual through the mediation of small groups. Typically, the members of a small group are of the same social class and reinforce the patterns of behavior of that class.

Occupations exert powerful influences on their members through the fact that most gainfully employed adults identify strongly with the occupations in which they are engaged, and each occupation developes certain "ethics"--conventional behavior expected of its members, at least while they are at work. Recent studies of the sociology of various occupations, such as law, teaching, and medicine, indicate how extensively these occupational expectations guide the behavior of their members. As with social classes, small groups of teachers, or lawyers, or carpenters, or farmers, often serve to reinforce the culture of the occupation.

IMPLICATIONS OF SOCIAL CLASS AND OCCUPATIONAL MEMBERSHIP

Do we know the social class origins of our prospective teachers? What is the view of these social classes about the nature of vocational education? Do they perceive vocational education as largely the development of physical skills rather than intellectual and social skills? Are there a number of potentially excellent teachers in social classes that do not commonly consider careers in vocational education? How could some of them be recruited?

What do we know of the occupational membership of the parents of our prospective teachers? Do they recognize the changing nature of occupations? Do they have a

flexible definition of an occupation as one including a variety of talents? Do they perceive the changing boundaries between related occupations and recognize the role of education in developing occupational competence to meet changing conditions? What implications are there for the content and sequence of the curriculum in education for vocational teachers in the information we have about the occupations of the parents of prospective teachers?

THE STUDY OF ORGANIZATIONS

Another group structure, which has important influences, is the formal organization--the business firm, the government bureau, or the school staff. For some years America has been moving from a society based on the open market and on traditional social classes to one which is more highly regulated, with the central activities, in general, performed by formal organizations. As this change has been taking place, an increasing amount of research has been focused on the nature of formal organizations. We know, of course, that most Americans are employed, more or less directly, by large organizations. Increasingly, our leisure and our cultural life are provided by large organizations, and we live in communities which, as political units, are themselves large organizations. But we are only beginning to learn how organizations function so as to accomplish their purposes, carry on planning and execution, influence and direct the behavior of their members, and provide a milieu in which members obtain rewards.

Initial investigations, although they revealed some of the anatomy of the large-scale organization, overemphasized the power of the administration and its effects on the "organization man." Current research is more likely to be guided by the model of an open system, like a living system in biology, and seeks to find the features which provide mutual satisfactions to administrator and worker. In this connection, communication turns out to be very important in an organization, not only to give some coherence to the work undertaken but as means to providing satisfaction or reward. Channels of communication, both formal and informal, need to be identified. The content and emotional character of communications through these channels need to be described in order to understand the way in which communications operate selectively to hold the organization together or to destroy its unity, to reward some members and not others, and, more generally, to distort the intended messages. Four functions of communications in a large-scale organization are frequently noted: a.) to communicate the purpose of the job being done by a member of the organization in terms that give meaning and significance to it for him; b.) to further interpersonal relations in the organization by providing two-way channels by which the members may exchange expressions of their ideas and feelings; c.) to communicate significant features which guide the member's work--the work load, acceptable ways of doing the job, and so on; d.) to provide a two-way communication by which the member can find out how well he is doing.

One of the areas of study in which widely different theories are guiding the research is that of the power relationships in a large-scale organization. This is an area of great importance in understanding how an organization works or fails to work, but there may be no single model which will be uniformly helpful in the explanation because organizations differ among themselves in several respects which may be significant for the power relations. Some organizations, like the post office or the public schools, are monopolies that need spend little energy in meeting external competition. Some are almost closed systems where change is relatively slow; others, such as a graduate department of psychology, are open systems, open to new knowledge, new staff members, and new students. Some organizations, such as a medical clinic, are built around a high degree of expertness; others, such as a chain grocery, require few, if any, highly trained specialists. Some studies assume that, in one sense, power is a bargaining value so that power exercised by some has been granted by those assenting to power because they expect to gain something of equal value. On this assumption, different kinds of organizations have different needs for power and authority and may provide different values to those accepting the power relationship.

Current research on the functioning of large-scale organizations is very active and can be seen to have many implications for education as well as for the general understanding of our developing society. No doubt, the most obvious implications lie in the organization and administration of schools and colleges rather than in the curriculum and instruction for vocational teachers.

RESEARCH ON LEADERSHIP

Although the study of leaders and leadership is a relatively old item on the agenda of the social sciences, recent work has taken some new directions. The early work of psychologists sought to find the characteristic traits of the effective leader.

The only trait which was found almost universally among leaders of business, education, politics, and the military was a higher-than-average level of energy. No traits of personality or of intellectual functioning were identified. Efforts to discover other traits which might be common to effective leaders in a single field were not successful. Early sociological studies sought uniformities about leadership based on characteristics of those led or of the situation. But these investigations also were relatively barren. Current research is based upon a more detailed conceptual model of the leadership situation. Some investigators are studying leadership as an essential feature of a large-scale organization. Hence, they outline the anatomy of a given type of organization, identify places in the organization where leadership is expected to function, and then observe the functioning of the "leader" and the behavior he exhibits in this situation. This approach provides a multiplicity of leadership situations related to the anatomy and the constraints of the organization and permits identification of various kinds of leadership roles.

A second kind of approach which is common in studying leadership in a political organization is to view the office, like that of the president, as requiring leadership and then to analyze the various leadership roles in terms of a group or team of persons filling those roles. This permits leadership to be viewed according to conflicting requirements of personal abilities and traits since they can be filled by a combination of several people.

A third approach is that of social psychologists studying leadership as found in small groups--the behavior involved in taking initiative, in allocating rewards, and so on. Finally, investigations are still continuing on the personality characteristics of effective leaders using the guiding hypothesis that there are types of leadership situations, each of which may evoke its own special personality patterns.

Research on leadership is likely to be of continuing interest to educators because schools depend upon leadership not only for their formal administration but also for the functioning of teacher organizations, classroom group activities, extracurricular programs and civic groups concerned with education. Present knowledge provides helpful suggestions for study within the educational context and new publications are likely to add to our understanding.

IMPLICATIONS OF RESEARCH ON ORGANIZATIONS AND LEADERSHIP

Is the organization of the division of teacher education an effective one in focussing interests and efforts of teachers and students and in providing mutual satisfactions? Is the organization an open one, yet well knit? Are its channels of communication operating selectively to hold the organization together and to transmit important messages with fidelity? Does the organization furnish an effective base for the needed power and authority to operate the program of teacher education?

Does the teacher education program provide learning experiences to develop the varieties of leadership required in vocational education? Are efforts made to identify talents for potential leadership in each of the prospective teachers? How can program be improved in these respects?

OTHER RESEARCH AREAS

The foregoing discussion of research in the behavioral sciences which has implications for teacher education does not exhaust the listing of active inquiries under way. Important work is going on in economics, political science, demography, social change, and decision making. Mathematical game theory and information theory currently are used to suggest models for rational decision making under differing conditions with regard to the relevant information available. The fields of communication research and of operations analysis are very much alive. Studies of the development of human resources in the newly emerging nations, by economists, anthropologists, sociologists, and psychologists, are revealing a variety of informal situations, groups, and agencies that contribute substantially to the training and education of youth and adults. Clearly, the concepts and the results of research in the behavioral sciences appear to have important bearing on our understanding of teacher education as well as of other aspects of education. More adequate understanding, in turn, provides us with further bases for guiding our own work.

ECONOMICS AND VOCATIONAL TEACHER EDUCATION

Herbert E. Striner*

In essence, much of what I will have to say is encapsulated by Ralph Tyler's remark on page ten of his paper, "Do we know the extent to which our students have distorted perceptions of people and things that are significant in their own work as students and teachers? Does our program of teacher education furnish opportunities for developing accurate perceptions?" Since economics has as its foci of interest those functions of society having to do with the production, distribution, consumption and exchange of goods, then the economist must be vitally concerned with the role of the vocational educator in preparing people for jobs in that society.

A major problem has to do with the vocational educators perceiving properly, or acquiring the means for perceiving accurately, how people and things relate to each other in our economy, and the factors which can and do effect this relationship. Under his section "Implications of Research on Social Influences," Tyler refers to the fact that many of the implications of research relate directly to our responsibility for helping prospective teachers to acquire teaching competence. From the point of view of the economist, however, the problem of teaching competence for the vocational educator includes an educational background which is not normally included in their preparation for teaching. To train young people for a vocation means being aware of what the trends are nationally for the demand for new skills. It also means being aware of projected future demand, and translating these national trends in terms of the local situation. Shifts in technology, for example, may not only affect the demand for certain skills, but it also means that technological changes must be understood sufficiently well so that changes in equipment and teaching techniques will provide graduates with the sorts of skills which are up to date at the time of entry into the labor market.

Quite aside from the hardware aspects of technological change, the vocational educator must be sufficiently close to the actual operation of an industry or business so that the managerial aspects are as familiar to him as are the production aspects. This is of increasing significance when one recalls that for the first time in our economic history, the white-collar workers now outnumber substantially the blue-collar workers. Our economy has shifted radically not only away from agriculture as a major component of a labor force, but also increasingly away from production in the old sense. Services, management, the use of human resources to produce other than physical goods have now become the major vocational areas. All this involves techniques and training with which the vocational educator has not been familiar or called upon to be involved in in the past.

As Tyler has indicated in his paper "Channels of communication, both formal and informal, need to be identified." The vocational educator, to do his job, must not only become aware of the network which can communicate necessary information to him so that he can design his course properly, but he must actually become a major part of this network. One must immediately query how in the world a teacher with all of the other responsibilities imposed upon him can also move out of the classroom and become a communicator of the sort which we envision here. I would like to suggest several ways of doing this, but in a somewhat round-about manner.

We are at the present time confronted by a disconcerting paradox in our economy. Although the national level of unemployment is a bit below 4 percent, we know that the unemployment levels for subgroups within the population may be three to four times the national average and in some cases as many as ten times the national average. We know that in certain parts of our major metropolitan areas the unemployment rate for Negro teen-agers is approximately 20 to 25 percent. In some instances, using a new type of

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indicator called the underemployment rate, the same groups, Negro teen-agers, show an underemployment rate of over 40 percent. This exists at the very same time that there are many jobs available, going begging for lack of qualified workers. This is partially the fault of a system of education that has given inadequate attention to apprenticeship and on-the-job training, and has failed to gear its curriculum to the real world of work. An examination of our local labor markets and the educational institutions reveals that what is missing is the most important factor of all, an effective clearing house for information between the demand side and the supply side of the labor market. What is called for, I believe, is an entirely new role for the vocational educator. It also calls for a new form of education for the vocational educator if he is to be able to fill the new role I have in mind. Job opportunities currently exist but the details of their nature and location are not being transmitted to the institutions charged with training. Curriculums are designed too frequently on the basis of inadequate, incomplete information about the production techniques in industries offering job opportunities. We have all too many situations where the local employment service may only have a handful of job orders for an industry or firm that actually has many job vacancies; but, because historically that particular industry does not use the employment service, we have a distorted impression of the true employment potential in that community at that time for that industry.

Unfortunately, the schools look almost completely to the employment service for help in determining the characteristics and needs of the labor market, and we often find that vocational programs reflect a most inaccurate picture of skill needs in that community. Also, because industry officials are not involved in school-program planning, youngsters are trained often in outmoded technology and equipped with obsolete skills. When they graduate, their skills are useless to modern business firms. The consequences are particularly unfortunate when, for example, lower-income, disadvantaged children can see that their older friends and relatives have been trained inappropriately and remain unemployed. It is difficult to argue with youngsters in these circumstances, and they remain convinced that it is pointless to remain in school. This blighting experience only adds to their bitter, frustrated existence.

Now, what does all of this mean with respect to education and the performance of our vocational teachers? Starting with education, there is no doubt that any individual involved in training youngsters for the market place must become much more familiar with the operation and the nature of the market place. This means that there must be course work either given on an institutional basis or on a less formal basis which provides the vocational educator with the ability to undertake his own analysis of changes in the local labor market situation. I am not saying that the vocational educator must become a manpower economist but rather he must become familiar with the sorts of tools and information used by manpower economists in keeping abreast of changes in the local labor market. He must in addition to this type of educational input, be in a position to upgrade his own particular skill. There is nothing more wasteful each summer than to see vocational educators working in whatever type of job provides them with the most income, no matter what the job. There must be an effort made, probably subsidized by government funds, so that individuals who teach vocational courses are provided with the means, at least every two years, for intensive upgrading and retraining of their own skills. It is interesting to note that in the Russian vocational education program, every vocational teacher must be certified every two years as to his ability to teach a course. This certification examination covers his technical ability as well as his grasp of changes in his particular field. Without certification, he is unable to obtain a teaching contract. I think this is an excellent system. In this country it can be done as a coupled program, combining institutional as well as actual on-site training. There are any number of business firms which would welcome this highly talented addition to their labor force or supervisory cadre. I might parenthetically add that it also tends to guarantee the development of more effective placement channels by virtue of personal contacts which the educator will then have with the firms in his area.

Beyond the suggestion that the vocational educator be given course work which provides him with some idea of how the labor market works and what happens to jobs in his community in terms of their being phased out or new types of jobs being phased in, there is a critical need for the vocational educator to become thoroughly aware of information which can be utilized by him in developing his course program. There are relatively few vocational educators who are aware of the wide range of local, state and federal agencies providing information on the labor market and changing skill needs. Vocational educators as a group are unaware of the program which the Bureau of Labor Statistics has been developing over the last several years to obtain current information on job vacancies in major metropolitan areas. This job-survey program is currently being expanded so more major metropolitan areas are to be included, but even in those areas where this operation has been underway the vocational educators are usually uninformed concerning this vital input for their own program development. Additionally, in a study undertaken by Samuel Burt, formerly with the Upjohn Institute,

on the use of business advisory committees in vocational training, it became obvious that in very few instances have the vocational educators established effective industry advisory committees. Under the Vocational Education Act of 1963, it was made mandatory for every vocational program with any contributions of federal funds that there be established local industry advisory committees. The committees were to form strong linkages between education and the business world. But, in very few cities have the educators moved to, a.) involve the proper types of local businessmen who could provide the practical sort of information needed for course design and manpower need projections, and b.) developed the techniques which guaranteed the continuous and wholehearted involvement of local businessmen in this sort of activity. It strikes me as one of the simplest of all things, given the profit motive, for vocational educators to impress on businessmen, especially during those periods when there is a scarcity of trained manpower, the good sense of working with vocational educators to increase the supply of skilled people needed by industry. Too frequently the retort by educators is that businessmen themselves should take the first steps to provide help in designing vocational education courses since it is in their own best interest. I think the problem, however, is that both the educators and businessmen may be too concerned with determining whose fault it is rather than dealing with the problem. Most businessmen, rightly or wrongly, are fully taken up in the day-to-day task with managing the business and putting out all sorts of fires which arise during the daily, normal production process. Educators, I believe, must be the aggressive ones in this effort. It is the educators, who as a matter of fact, must begin to understand that to educate in the vocational field means also to be involved in the final placement and follow-up activities which should follow any training program. I agree with Dr. Grant Venn, the Assistant Commissioner for Vocational Education, U. S. Office of Education, who has made the point that the educator must now understand that it is his full responsibility not only to train but also to carry through the process of placement.

Now, how do we go about achieving these sorts of results? I don't think it is either realistic or fair to assume that the vocational educator himself must perform all of these activites. He certainly must be involved in the development of a more effective educational program by means of which he can understand the operation of the economy as it affects jobs. He certainly must be involved in developing closer relationships with industry and he certainly must be involved in pushing for a subsidized training program to ensure that his own skills will not be obsolete. But I believe that within the school system itself, there must be a labor market analysis program in which economists are brought into the system and work closely with the vocational educators and counselors. I believe, that the field of manpower training and employment is much too important to be left solely in the hands of vocational educators. I say this only half jokingly, because I don't think that the vocational educators by themselves could ever come to have the time and resources to fulfill all of these functions. No one could! The economists must bear a part of this responsibility and increasingly move into a closer relationship with the educators. I don't believe that the educational establishment should continue to look solely to the U. S. Employment Service for the information it must have to develop curriculum and allocate resources. I believe that the U. S. Employment Service has so many problems that for it to allocate the resources necessary to service the educational institutions is beyond the realm of reason. Hence, education must extend itself into the field of economics and vocational education specifically must begin to move in this direction. Outside of the public school system this has begun to occur in many private technical training institutions. In this instance I would like to call attention to page 24 of Ralph Tyler's paper where he says: "Some organizations like the Post Office or the Public Schools are monopolies that need spend little energy in meeting external competition." I disagree with that statement! I disagree not only because I don't think it is so, but also because I don't think it should be so. I believe that at the present time in a number of cities in this country the public vocational systems are facing very stiff competition from private vocational training centers, and I think in the future there should be much more of this sort of competition in order to provide stimulus for more effective performance. I believe that in the future vocational education will have to be so flexible in order to meet the changing needs of our industrial society that in many fields the flexibility and close relationship which must develop between the school and industry will only be able to be affected by small, private vocational training institutions. In those instances, I think, we will probably begin to see recurrence of a limited form of "G. I. Bill." But the funds will follow students not because they are ex-G. I.'s but because they are young people who have chosen to attend what they belive to be the best possible vocational training center in their community. I don't think they should be penalized any more than young people receiving public funds under the National Defense Education Act to attend private universities. The spur to develop more effective public vocational training programs in this country will probably have to rely in some measure on competition resulting from the use of public funds by students who attend private schools at which they feel they are getting the best training. Obviously, proper accreditation is necessary in order to ensure that all private vocational schools meet certain minimum standards, but this is something we have been through before and can go through again.

A quick response to changes in our economy is becoming more important than heretofore, as a result of changes in technology as well as the shift from production to service jobs. An of course, the service jobs themselves are increasingly complex. More people will change jobs more often and the return of adults to skill-training centers must increase. A recent Bureau of Labor Statistics study found that about 5½ million Americans employed in January 1966 were working in an occupation different from the one they were in January 1965. Sixty percent of those who changed occupations were under 35 years of age and, generally, the rates were higher for men than women. A considerable amount of this movement was from blue-collar work to the services occupations. The implications for vocational education are obvious. The training and daily functioning of a vocational educator must involve the use and awareness of economics. Training must be geared to a market place which is neither remote nor academic. To do otherwise is to move further in the direction of professional obsolescence. One thing is certain. Vocational education as it has existed until recently is probably passe. If it and economics move closer together, I believe it can serve our economy in a new and more effective manner. On the basis of Ralph Tyler's paper, and the others given here today, I presume it can also serve our greater society more effectively as well.

SOCIOLOGY AND VOCATIONAL-TECHNICAL EDUCATION: RELATIONSHIPS BETWEEN SOCIAL STRUCTURE AND MANPOWER

Edward Gross*

The Employment Act of 1946 symbolized a major shift in social attitudes. Without giving any promise to provide jobs, it stated the government's responsibility for a high level of employment. To do so requires a manpower policy. We cannot have as much as we want of everything and the law of supply and demand for labor is too slow Therefore we must deliberately encourage some choices and discourage others.

Here is where counselors play an increasingly important role. The government is their newest client. Insofar as the shape of the occupational structure comes under deliberate control, the counselor's skills become critical. His professional values, including that of the free choice of the individual in the light of best knowledge of capabilities and opportunities, provide a balance to the understandingly impetuous efforts of government to sort and sift and find jobs. It is the counselor's occupation which helps others find theirs. Truly it is the occupation of occupations.

I wish to address myself to the social structure as a set of variables affecting the shape of manpower needs in the U. S. We need to understand certain basic changes taking place, or else we will plan in vain, producing surpluses and scarcities, with consequent hardship to the individual as well as society.

To illustrate what I mean by social structure in relation to manpower, take, for example, the standard practice of estimating occupational needs by comparing numbers of practitioners to population. A favorite, because of his importance, is the physician, and it is easy to show that ratios are declining, or that per capita service is low in comparison to other countries. Or estimates may be made of "needs" through surveys of illness, probably effects of medicare and the like, and the ability of existing physicians to handle the needs is usually shown to be low. Confronted then with the classically insoluble problem of rapidly increasing the supply of professional labor in the short run, persons turn to crash programs to train physicians rapidly and to attacks on the supposed conservation and craft-union restrictionism of the American Medical Association.

There seems little question that it is necessary to increase the supply of physicians, and rapidly. But estimates of the numbers required are likely to be wide of the mark unless account is taken of the fact that the social organization of medical practice is changing. Physicians are simply not being used in the same way as they used to be. The "physicians per population" ratios are the equivalent, at the aggregative statistics level, of the celebrated "physician-patient relationship." But what is clear is that the relationship is changing, to be replaced by the model of the health-care team. This new social structure includes nurse, physiotherapist, diagnostician, surgeon, laboratory technician, social worker, psychologist, inhalation therapist, prosthetic technician, electronic data processing specialist, and with the looming development of organ and mechanical transplants, engineer and mechanic. Reliable projections will have to look on these occupations as a group: shortages or surpluses in any one of them can be created not only by shifts in need but also by shifts in the way the health care team is organized. The shortage of doctors may be solved in much the same way as the U. S. solved its "servant problem:" we create a new way of organizing the activity which makes us less dependent on the occupation. Evidence from studies of who shows up at emergency admission offices in hospitals between the hours of five in the afternoon and eight in the morning indicates that a growing proportion is made up simply of persons seeking a doctor for conditions which are not acute or of an emergency character. Perhaps then we need not lament the decline of the general practitioner, and seek means to increase his number, but ask how the hospital can do better what it is beginning to do: serve as the center for general practice.

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Or take the case of the relationship between the Federal government and universities. It is perfectly consistent with the national policy on the development of manpower to urge universities to take steps to increase the number of scientists and professionals. But such an interest may directly conflict with the local interests of state and/or private universities who will see little justification in spending any large amount of endowed funds or of local state funds to produce scientists and other professionals who will go elsewhere.

The high expense of such training will make such an argument difficult to resist. It will surely become necessary, as it is already, for the Federal government, as representative of all of the nation, to directly subsidize such training and this will inevitably involve the government in selection among universities since not all will be equally capable. One result may be the elaboration of stratification among universities so that we have a relatively small group of national universities and a relatively large group of local universities. Some universities, of course, will function as both, and we may expect cleavages within them along those lines.

It would be easy to multiply examples showing the relevance of structural variables to manpower policy. It will be more useful if I set down what I feel to be the key elements in American social structure which have a direct bearing on that policy, especially as counselors may play a role in implementing and controlling it.

THE ORGANIZED CHARACTER OF AMERICAN SOCIETY

Most American manpower analysts refer to foreign unemployment experience with envy. They report the impressive record of low unemployment of countries like Sweden, West Germany, Great Britain, Japan, as well as many others. They note that these countries have programs which enable them to attain these goals more easily than we do in the United States. For example, Miernyk describes the Royal Labor Market Board in Sweden and its authority to deal with seasonal and cyclical unemployment. The board has standby appropriations to be used when necessary to counteract cyclical unemployment. Such appropriations may be used to subsidize unemployment insurance associations, to make loans and grants to local government for short-term public works, or to step up the placement of government orders for goods and services with private industry. Often referred to are the Swedish tax laws which enable firms to set aside a portion of profits in periods of low unemployment which may then be released for use when unemployment rises. Other countries have federalized employment services which are enabled to have a much more coordinated labor-employment policy. After such programs have been described, some authors go on to point out that while these ideas are suggestive, they are of course not applicable to the United States because of the tradition of self-help, individualism, and the strength of state and other local interests.

But while we must of course grant that the U. S. is not as homogeneous as these foreign countries and in addition is not as centralized in its organization, it does not follow that we must therefore go to the other extreme. By that I refer to the tendency of persons to assume that, because we do not have a single centralized organization, that therefore the U. S. can be described in terms of a large mass of autonomous individuals who must be dealt with from on high as individuals. For example, Lester discusses the job information service of the U. S. Employment Service as being, possibly, the principal activity of the Employment Service. Without denying the importance of information in any manpower policy, what is disturbing is the way in which Lester sees this information as getting to the people who need it. He sees it as a matter of gathering large amounts of information which is then transmitted by "intelligent action," to individuals. Although dubious of the value of pamphlets, and publications of statistics, the only alternative he sees is for individual counselors to discuss these items of information with those who might profit by them. He goes on to discuss the possibilities of the use of advertising. Although Lester himself points out that such information will not be fully effective unless "the potential users have confidence in its reliability," there would seem to be little reason why anybody would have confidence in the information when it is provided in the way he suggests, and as a matter of fact the way it usually is provided, that is, directly to private individuals.

For if there is one thing that is clear about the likelihood of acceptance of information, it is that its acceptance does not somehow flow from its inner character. For information to be accepted it must carry the ring of authenticity and a major source of authenticity is the groups and organizations that the person is a member of, which serve as his source of reference, and on whom he depends. One obvious example is the agent or contractor in the harvest labor market of California and other states that make use of large numbers of migratory laborers. Because of language barriers and cultural differences, these groups come to be dependent upon such contractors, and whatever the abuses in the system, there seems no doubt that the laborers take the word

of their contractor or agent as to where jobs are available. They do not, to any great extent, look in the newspapers or attempt to secure independent counseling as individuals. Nor would such methods be meaningful even if they could read the newspaper or qualify for the job. One of the most efficient ways of getting information to people is to do it in terms of their existing memberships, to get to them as Negroes or as Puerto Ricans, and to get to them through their recognized leadership.

A study of the ways in which innovations in medical practice were spread is revealing in this connection. The investigators were interested in the patterns of adoption of a new drug, called "gammanym," by the 216 physicians practicing in four midwestern communities of medium size. Advertising in medical journals and the house organs of pharmaceutical firms, as well as the visits of detail men from those firms, were found to be practically universally used as sources of information. They first read about or heard about gammanym from those and other sources, to be sure. But differential exposure or use of those sources did not differentiate the adopters from the non-adopters (exposure was close to a constant). Whether they adopted the drug for prescription to patients depended on their position in the professional social culture. Physicians were found to fall into one of three categories:

1. Pro's, who read the journals in their own specialties, took refresher courses, maintained professional contacts with professors at nearby medical schools, had staff appointments at hospitals, and the like.
2. Sociables, whose friends were other physicians, but who saw them only as friends; e.g., they met at cocktail parties, played bridge together, or their wives were leaders in programs of community improvement.
3. Isolates, who participated in neither of the above networks, but who either had not friends, or whose friends were not limited to other physicians.

When they compared these three groups they found that adoption followed that order. Further, although 85 percent had adopted the drug for routine use after 16 months, fully 10 months intervened between the average for pro's and isolates.

The point here is that information about the drug was not related to adoption. Rather who legitimated its use was crucial. Pro's had each other, in whom they had faith. When a pro got positive information on the drug from a fellow pro, that gave it the stamp of authenticity and he adopted the drug right away. Friendship was slower, for the obvious reason that friends are less reliable authenticators. A friend may be a great man at mixing a martini, but that hardly makes him a reliable professional reference. But it starts the process. A friend's reference may make you check out what he claims. So you turn to the journals, or call up someone you do have faith in. Finally, isolates have no one to suggest or legitimate for them. So they simply do not adopt until even they hear good reports on it from other physicians, or, the researchers report, even from their own patients who ask for the drug.

So, too, attempts to reach unemployed individuals through advertising in mass newspapers or indeed, to reach them one at a time by inviting them into the office will result in missing a large proportion of those needing jobs. They will accept the word of "one of their own," when they would regard the promises for the future of an employment counselor as of less value and of less dependability.

What is particularly upsetting is that when such manpower analysts do get around to discussing organizations and ethnic groups, they tend to see them as barriers. In a discussion of the need for flexibility, Lester writes, "General education and training help to increase occupational flexibility. Flexibility in the use of labor is reduced on the other hand by racial and sex discrimination and by social barriers to fluidity in the nation's labor force." Such an attitude is common among those who see the career as a rational process of selecting among alternatives. As such, any time an emotional factor such as affection or attachment comes into the picture, it is dismissed as "irrational," or as getting in the way. Thus many speak of the barriers imposed by parental ignorance of occupational opportunities. Unfortunately, however, if you do away with parental ignorance through removing parental influence, you are also going to do away with parental help. If one insists upon seeing organizations and social structures as barriers rather than as possible helps, one is fighting the manpower battle with one hand tied behind one's back. Many, for example, see labor unions as standing in the way of desired changes. The labor union is felt to be a conservative force which has lost its ideology. Yet, as Whyte and others have pointed out, if union support can be secured, then the union can be instrumental in assisting making changes rapidly, particularly unpopular changes that workers would never accept from management. No more striking example of willingness to make change can be provided than the case of the automation of the coal-mining industry, causing a drop in employment from something over a half a million down to less than 200,000 at present time. And who was one of the leaders in this movement? Old John L. Lewis himself. He

recognized that it was a choice between automating quickly in the face of competition from other fuels, or facing the disappearance of the industry altogether. He chose job security for a third of the workers rather than total job loss for an even larger number. Furthermore, it was Lewis who often had to push management into accepting the need for automating in a hurry.

Of course not all organizational forms and structures can be of assistance in the changing of occupational choice behavior. Some may be indeed barriers, but all of them must be taken into account. What are the major kinds?

LARGE-SCALE ORGANIZATION

If I were to try to state in one sentence what I believe to be the dominant characteristic of modern Western urban industrial society, I would say it is the following: Western society seeks to attain all of its larger goals through large-scale organization. Whether the goal is producing goods, healing the sick, protecting society from criminals, protecting society from foreign enemies or educating the young, and influencing occupational choice, the characteristic approach is to form an organization with goals and a structure. Although many have lamented the cost to the individual of life in organizations, there does not appear to be on the immediate horizon any alternative which is likely to be even half so successful as organizations have proven to be.

The predominance of large-scale organizations is clearly evident in the United States. Among private firms, in 1962, available data show that we are a nation of small firms, for over three-quarters of firms employ seven or fewer workers; firms employing 50 or more make up a scant 3.4 percent. On the other hand, three-quarters of small firms, when put together, account for only one-seventh of all employees, whereas the tiny group of large firms together account for close to 60 percent of workers. In general, although the average firm is small, the average employee works for a large firm. Nor does this present the whole picture, for these data refer only to persons in private employment. The government, of course, is a large organization and the data reveal that in 1962 about one in seven of all the employed (some 9.2 million civilians) worked for the government in one capacity or another. Even the professions, which many persons think of as being practiced privately or in relatively small groups are not as exceptional as is often thought. The dominant situation for the professional is that of a salaried employee. The examples that come to mind are many. Accountants, airplane pilots, college presidents, dieticians, draftsmen, editors, engineers, scientists, social workers, and of course teachers as well as counselors are typically found working in formal organizations, and a high proportion in large organizations.

Certain implications follow from the predominance of the organizational context in the life of the average worker. First, a life in an organization means a position in a hierarchy of authority. An important consideration in the preparation of the individual, then, would include training for the handling of an adjustment to authority. Authority can be of different kinds--charismatic (based on personal devotion to a leader of remarkable qualities), traditional, legal-bureaucratic (based on rules or what may be thought to be the rights that inhere in a particular position), or expert (based on the reputation of the person who wields authority). Different types of background and different types of values will mean that the individual who has difficulty with one kind of authority may be quite at home with a different kind. There are certainly no simple relationships between personality and authority although, of course, certain persons have difficulty with authority of any kind. Organizations may be analyzed in terms of the kind of authority structure that they provide but no organization is devoid of some type of assumptions about authority. Organizations are always coordinated structures and this means that some persons must make critical decisions on workflow and on the manner in which the various parts of the organization will be articulated.

Second, the quest for security has come increasingly to mean associating oneself with a large organization that can offer tenure and protection against the vicissitudes of life, rather than attempting to equip oneself with skills that are equal to any emergency. In earlier days, persons who went to work for the government were often criticized as being too security-minded. However, as organizations increase in size, this motive for a high proportion of workers cannot be dismissed. It is particularly important for workers at the lower end of the prestige hierarchy, many of whom feel that any type of enduring employment is superior to the chaotic work experience that most of them are forced to endure. The ability of the individual to do without organizational supports in his quest for security might be taken into account by the vocational counselor.

Third, it has been the finding of a large number of studies that persons employed in organizations do not experience their major friendships and intimate relationships at work (Dubin, 1956). Although most will make friends at work, usually these friendships are not carried over to after-work hours. Instead, the life of an organization is likely to consist of a set of impersonal relationships. In the classic case, organizations are set up in order to control the overpersonalization of relationships, so that decisions will be made on the basis of the merits of the case rather than the feelings persons have toward one another or their own impulses. It is easy to exaggerate the matter but there seems little doubt that effective functioning in an organization means being able to handle impersonal relationships by maintaining a certain degree of detachment from the work.

Fourth, organizations are set up to maximize the probability of success of goal-attainment. Consequently, flow charts and other methods for coordinating effort assume that most of the problems of attaining the goal of the organization have been solved. Inevitably, then, work goes by a routine, and this is true however exciting one's job might be or however important the work of the organization is to the society. Therefore the employee can expect that much of his day will be spent in routine, repetitive activities with excitement coming rarely. The ability to tolerate such routine may be of importance in particular cases.

Fifth, an obverse problem is presented by the fact that, in reality, no organization has solved all problems necessary to the attainment of its goals, but, instead, each organization has great needs for initiative and creativity on the part of its employees, although that initiative and creativity will have to be displayed within a context of a set of rules. Argyris (1957) sees an inevitable conflict between the needs of the individual for creative expression and the demands of the organization for conformity. It seems dubious that such conflict is as serious as Argyris suggests (Gross, 1965). Still, some conflict is not only likely but desirable for both the organization and the individual. It is hardly surprising that the organization resists creativity since the only test, ultimately, of the value of a new idea is that it stands up well in the face of resistance. The creative individual, then, should not be repulsed by the structure of organizations, not only because the organizations provide him with the equipment and the resources necessary to develop his ideas, but also because organizations need the contribution of the iconoclast, and can be made to respond to his original contributions. Such is particularly the case for scientists and research personnel.

Sixth, the data on job-shifting (Gross, 1959) argue strongly for the conclusion that the average worker holds many jobs in a lifetime. A high proportion of these will involve different employers and, therefore, different organizations. The individual will therefore find it wise and realistic to maintain a certain distance from both the job and the organization. Loyalty to a particular organization may result in a great shock to the individual when he finds the organization cannot keep him on as an employee. Indeed, organizations are of two minds about loyalty. On the one hand, they desire persons who feel attached to the organization for this often means a greater willingness to tolerate delay in promotions and salary increases, and other types of irritations that the individual may have to put up with. On the other hand, persons may be too loyal, so that the organization will be unable to get rid of them when they are no longer suited to the organization's needs. It may then be not only to the individual's advantage but to the organization's advantage as well for persons to move from one organization to another after moderate periods in the organization. Such inter-organizational shifts suggest a revision of insurance and annuity arrangements so that a higher proportion are portable.

Seventh, and finally, attention needs to be given to the fact that mobility within an organization is not always upward. Perhaps because of our past experience with economic growth and because of our American optimism, we have tended to ignore the phenomenon of downward mobility. Inevitable, even in a growing economy, everyone will sooner or later experience some downward mobility although, for some, it may occur right at the end of their work careers. Most experience it much earlier. Much more research must be devoted to the social and psychological consequences of demotion. Organizations have many ways of handling demotion so as to soften its impact, such as kicking people upstairs, shifting them to other parts of the company to less demanding jobs, and other ingenious devices (Goldner, 1965). But the reality of demotion must be faced as inevitable consequence of a desire of organizations to retain flexibility in their attempts to serve the society. So, it becomes important that the individual expect that his organizational career will have many directions, some up, some sideways, some down.

PREPARATION FOR A SET OF ROLE RELATIONSHIPS

Preparation for the world of work involves preparation for a certain pattern of interaction with other persons on the job, that is, role sets. What is needed is a

new dictionary of occupational titles in which job descriptions will be in terms of characteristic interactions rather than specific physical activities. For example, here is the description of "newspaper carrier" in the Dictionary of Occupational Titles (second edition):

> Distributes newspapers to regular subscribers on a specified route. Collects accounts at regular intervals and delivers or mails collections to superior. Attends periodic meetings for instructions. Contacts new subscribers and writes subscriptions.

Although one can infer certain interactions from this description, a description in terms of role sets might be better put as follows:

> Key persons in the role set of newspaper carrier include the following: (1) The Customer. Customers like to recieve their newspaper in a convenient place, unaffected by rain, snow, or wind. They can rarely tolerate a delay in delivery longer than ten minutes off one's usual time. They must be taught to telephone newspaper carrier at home rather than telephone the newspaper with a complaint. Many do not pay promptly but must be revisited several times. Most of them are chronically short of change. All of them desire that the newspaper carrier shall stay off the grass, stay out of the flower gardens, and indeed, would prefer that he not step on the property at all. Should the newspaper carrier be bitten by the customer's dog, the customer is likely to blame the newspaper carrier for upsetting the dog. (2) Non-Customers. Other persons who are not customers nevertheless may give the newsboy trouble since they object to his taking short cuts across their property. They also have dogs. (3) The Superior. This individual tries to maintain the fiction that the newspaper carrier is an independent businessman. Therefore, he has periodic meetings with the newspaper carriers in order to "counsel" them on their business activities. As a matter of fact, he spends most of his time pressuring the newspaper carrier to increase the number of new subscribers. His pep talks are frequent and must be endured. (4) Other Newscarriers. One occasionally encounters persons who carry newspapers for competing companies (or even for the same company) who attempt to take away one's subscribers. (5) School Teachers. The newspaper carrier must particularly guard against the possibility that failure to keep up his schoolwork or infractions of disciplinary rules may lead to his being kept after school. Should this occur, he may then be late in picking up his papers and delivering them and, thus, suffer the unfavorable attention of both his superior and his customers. The resultant role conflict may, in addition, produce feelings of guilt on the part of the newspaper carrier, thus affecting his degree of job satisfaction.

It may be possible to train the client in the ability to make this kind of analysis of the job at a relatively early stage in his period of employment. He might be taught to draw up a small chart on which are listed the key persons whom he must satisfy, who evaluate his work, who depend on it, and on whom he will depend for satisfactory job accomplishment as well as for other goals that he may have. In a factory, this will include certain fellow workers, the foreman, workers in other shops, one's own supervisor and, perhaps, a helper. In a restaurant, as Whyte's (1948) research has shown clearly, a major element in the role set is the customer who will put direct pressure on the waitress and cashier. In the professions, one will include the client, other professionals with whom one works as a team, and the members of the profession in general with whom one works as a team, and the members whom one regards as a reference group.

CONFLICT IS UNAVOIDABLE

Nobody likes all this conflict, and everyone complains about it, or hides it from the outsider. But, a strong case can be made that this conflict is desirable both for the professions and for organizations. The literature in industrial sociology has documented extensively the danger of viewing manager-worker conflict, for example, as due to lack of mutual understanding. It has been shown that conflict is unavoidable in organizations because there are large differences of interests. There are only so many good hours, so many favorite locations, and so many desirable duties in an organization. There is only so much money, and so much prestige. When some get more, others get less. In organizations, it would be a safe conclusion that the administrator who insists he does not have conflict is simply not being told about it.

CONFLICT CAN BE FUNCTIONAL

Lewis Coser, in his classic work on conflict, makes the case that conflict can also be functional in providing boundary maintenance and in increasing group

cohesiveness. It is possible to go further and point out that conflict can also be creative. It is not simply that conflict leads to problems being solved, as Coser (elaborating on Simmel), points out. For an open battle may simply be resolved by victory going to the stronger, not to the more deserving or the more correct. Conflict can be a way of creatively solving problems if it takes place in a context in which it is institutionalized and in which the rules make certain the conflict is a fair one with the sides being permitted to make their case as strongly as possible.

The ideal situation, of course, is the courtroom in our society. It is not assumed that truth is obvious or that it lies wholly on one side or the other. The only way (it doesn't always work) of getting some idea of where truth lies is to provide a situation in which the two opponents each attempt to knock down the ideas of the other. A similar model is evident in science where it is assumed that the only way of testing an hypothesis, apart from gathering data for it, is to deliberately try to knock it down with contrary data. When many try and fail, the hypothesis is felt to have withstood the criticism test.

Conflict, when it takes the form of public criticism of the ideas of colleagues, will also serve the important function of drawing attention to these ideas. Alex Simirenko calls this effect, in connection with Soviet criticisms of Western ideas in Soviet journals, "creative debunking." His point is that a device for channeling information from the outside world to the Soviet reader in a fashion that will not disturb the foundations of the Soviet system is to do so through a searing criticism of these foreign ideas. In order that the reader can understand what ideas are being criticized, it is clearly necessary to present the ideas first. If the foreign ideas are particularly important and therefore deserving of serious criticism, then it becomes all the more necessary to describe the foreign ideas in greater detail so that their many weaknesses can be gone into.

In a like manner, the criticism and the conflict which professionals experience in organizations, particularly from other professions (and from non-professionals as well as from others that we have described) may be of direct assistance to the professionals themselves, however unpleasant the professionals themselves may find it. It may also be of benefit to the organization. Often administrators, in their alarm about such conflict, express the wish that "professionals, non-professionals and all others will cooperate." And yet since the professions believe strongly in their own unique competence, their "cooperation" with other professions as well as with non-professions will often take the form of a battle. It is only through the results of such a battle that the real contribution that each profession can make may be discovered.

ADMINISTRATORS AND CONFLICT CONTROL

The important point is that the administrator cannot tell what the probable contribution of the nurse, the aide, the physiotherapist, the psychiatrist, the social worker or the dietician might be by asking them. If he should, they will assert the common professional claim of exclusive knowledge, and proceed to knock the others. How then is the administrator to discover just what the contributions of each might be? The most obvious answer is by letting them fight it out to prove what their contributions can be and ought to be. The administrator's task becomes that of controlling the terms of the conflict to be sure that the leading contenders' points of view and potential contribution are heard.

The same thing is true of research ideas in industry, whose value can only be discovered by providing an arena in which they can be criticized. In order to make sure that the criticism is a good one, it is necessary to have other professionals with different ideas and particularly those who dispute the research man's claim to exclusive competence. The social work administrator will similarly find that neither the social worker with a sense of calling, nor the fresh graduate out of social work school, necessarily have the full answer as to how the client ought to be treated. The client may well best be served by a temporary truce between these persons, the terms of which can hardly be settled by any other process than conflict between them. This is not to say that one or the other will be victorious for the conflict is continuous and will be represented, at any given time, by partial ascendancy of one or the other.

THE DANGERS OF EXCLUSIVENESS

It is also possible that conflict, providing it is engineered and controlled, may be of assistance to the professions themselves for it may be that they are being hurt by the very autonomy and professionalism which is so dear to them. To begin with,

there is their restrictiveness. In their claims of autonomy and monopoly, professions run into the criticism which many have made that they tend to adopt a craft-union restrictionism. Professions are not much disturbed at this criticism since it is simply another way of saying that they feel an exclusive competence. But the claim of exclusiveness may itself produce a dilemma, taking the following form.

On the one hand, the profession performs functions vital and essential to society. This is the basis for its mandate and for its claim that it deserves privileges. On the other hand, the profession also insists that it is the only agency which can perform the function--that all others are incompetent or quacks. Yet this very insistence on exclusiveness creates the danger that the essential, vital need which they are supposed to supply may not be best supplied by them. It may be supplied well at one time, but poorly handled at a different time. Yet the claim of monopolistic exclusiveness will remain, thus preventing the need from being met at all. In time, a process of deprofessionalization may set in through which the professional activity is broken up and assigned to other professionals or even to non-professionals.

CONTRIBUTIONS OF PSYCHOLOGY TO THE EDUCATION OF VOCATIONAL TEACHERS[1]

Robert F. Peck*

Like most other sciences, psychology offers facts about the behavior of human beings, organizing concepts which help to explain behavior, and action systems which are designed to influence behavior in desirable ways. Concerning vocational education, three kinds of contributions from psychology are worth considering: 1) knowledge about the development of vocational behavior which may be useful to teachers of vocational education, 2) knowledge about prospective teachers which may be useful to teacher educators, and 3) new educational procedures which are proving effective in the training of teachers.

THE PSYCHOLOGY OF VOCATIONAL DEVELOPMENT

In the last forty to fifty years, more has been discovered about the development of occupational interests and career performance than had ever been known or understood in preceding millennia. A great deal remains to be discovered, but these same recent decades have seen the development of tools for discovery which promise increasingly powerful solutions to yet-unsolved problems in this field. Significantly, the preferred approach to these issues is not one which could be narrowly defined as purely psychological, but an approach which calls upon many of the disciplines in the behavioral sciences. For example, while purely psychological studies, as they might be called, have discovered that the child's experiences with his father and mother have a powerful influence on his attitudes toward work and toward superiors many years later in adult life, no psychologist worth his salt today ignores the discoveries of sociological and anthropological studies which demonstrate that there are certain highly predictable ways in which the social class of the parents, and the value system which this implies, regularly influences the way in which particular parents treat their children. Moreover, partly because of the social realities of career opportunity, but also because of preconceived value preferences which differ between the social classes, the careers which children perceive to be open to them, as well as the kinds of careers they feel they would like, differ systematically from class to class, to a considerable degree.

It must be said immediately, however, that statements such as this are statements of statistical probability. (Statistical analysis is another of the tools which has largely been developed in the field of psychology.) "Common sense" assumptions about such social patterns have been held for hundreds or thousands of years. As we all know, the evolution of different, parallel curricula in American high schools reflects the assumption that some children should be guided to acquire the facts and skills which lead to college education, largely through the manipulation of abstract symbols, while another body of children would be better steered toward the development of manual skills such as those used by the typist, the machinist and the many other kinds of skilled workers. Indeed, the very concept of vocational education was invented originally to provide an alternative to the rather abstract, academic education designed to lead through college to essentially upper middle-class occupations. Implicit in this evolution was the recognition of very large statistical differences in the eventual vocational choices of children from the different social class levels. Where this is treated as a probability estimate only, with due consideration for factors of individual aptitude and individual interest, it can be both realistic and

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helpful to the millions of children whom we must guide and educate in each generation. On the other hand, if applied over-generally, these principles can be no more than the reflection of ignorant or biased discrimination which mechanically sorts children according to their parents' station in life and ignores their actual, individual talents and potentialities. The logic applies to the use of anthropological knowledge about the differences among various ethic groups, on their achievements, styles, and values.

It is precisely because educators, above all others, recognized this danger, that we have seen the development since World War I of increasingly accurate and powerful measures of individual aptitude, interest and motivation. Today, such techniques make it possible to distinguish much more accurately, and at an earlier age, what direction of education a given child can best follow to maximize his own potentialities. The next several decades will probably see, not the development of better measures of these individual factors, so much as the development of systems for applying such measures to very large numbers of children while maintaining the accuracy and objectivity of our best current practices. As one illustration, at The University of Texas we have been working for several years on the invention of systems which might permit the analysis of individual motivation and personality patterns by a computer, in the same way that a well-trained psychologist now is able to do for a relatively few cases. A number of other research centers in the country are also working on this general problem. Clearly, some such system must be evolved if accurate, insightful appraisals are to be made of hundreds of thousands of children each year.

Much that is already known could be taught to teachers of vocational education, about the factors which influence children to move toward one or another career, and the factors which indicate how well they are likely to adjust in their future jobs. Most vocational teachers now have at least a rough understanding of the existence and usefulness of measures of aptitude and interest. They probably are not yet acquainted with some of the important findings of recent research which indicate that job adjustment is even more dependent upon motivation, personal adjustment and social adjustment; and they very probably are not yet aware that increasingly objective and reliable measures of such factors are becoming available. For example, it has been demonstrated in the past five years, by studies in a number of places, that not only with normal people but with cerebral palsied people and with educable retardates who have graduated to full-time jobs, job success is much more determined by attitudes toward work and by the ability to get along with people on the job, than by degree of intelligence or the degree of physical ease of function. It would seem reasonable, therefore, to suggest that vocational teachers be acquainted with such facts and be given access to procedures which would help them apply these facts in assessing and guiding their pupils.

In a current study which goes by the name of Coping Styles and Achievement, the Office of Vocational Research of the U. S. Office of Education is sponsoring basic research into the origins and the dynamics of the ways in which children go about tackling achievement problems in real life, both in school and out of school. This study is simultaneously proceeding in a number of countries, which represent a wide range of economic development. So far, we have identified a number of widely different styles of coping behavior. Often, important differences of this kind may be masked in the traditional classroom setting, where the only behavior observable is response or non-response to a question from the teacher which has only one predetermined answer. In this study, we are interested in finding ways to identify and describe the behavior of children who show independent intitiative in identifying problems, ingenuity in devising various possible solutions, and realism in appraising the results of their trials. It is this kind of approach to tasks which seems most likely to produce, in later years, self-starting, self-critical performers who can deal flexibly and resourcefully with tasks which no one now living can foresee, but which they will very certainly face in our future technology.

A very sensible question for educators of vocational teachers is "Where is this kind of information available?" In universities which have colleges of business, probably the most frequently usable answer is to steer prospective teachers to carefully selected courses in personnel psychology, or in related areas. Sometimes an academic department of psychology offers pertinent courses; but a course with a pertinent-sounding title, does not always offer really pertinent information. A course in a college of business or in a school of educational administration is the most likely place, also, to get information on the psychology of schools as organizations. This is where the student is most likely to find, if anywhere, a frank, systematic discussion of the decision-making process, the power relationships and the morale-inducing factors in schools as organized systems. Much has been learned in the past generation by psychologists working in this area, though more remains to be learned.

KNOWLEDGE ABOUT PROSPECTIVE TEACHERS

While a good deal has been learned up to now, about the skills which teachers need to learn and ways in which these skills can be taught, it testifies to the distance we have yet to go that two of the ten national Research and Development Centers in Education which have been established in the past two years by the U. S. Office of Education are directly addressed to this problem. The Stanford Center concentrates its attention on the teaching process. The University of Texas Center is charged with responsibility for research and development of improved programs for teacher education, specifically. Actually, the work of these two centers interlocks, not only with each other, but with the work of a number of other university research centers and also with the twenty new Regional Educational Laboratories which have covered the country in just the past two years.

At Texas, research has been underway for more than ten years on ways of getting to know prospective teachers (and in-service teachers) as individuals. An assessment battery has been evolved which is now used systematically with all candidates for teacher certification who go through the University. This battery includes a biographical form which gets at career interests as well as family background, educational experience and values, and long-term career aims. A second instrument is a very brief, economical but effective questionnaire known as the Bown Self-Report Inventory; it measures attitudes toward self, work, children, and four other aspects of living. A third part of the battery is the Directed Imagination instrument, a wide-open invitation to envision a number of teaching situations scored by a manual that measures perceptual and attitudinal factors which are extremely relevant to teaching performance. A final part of the battery is a sentence completion form designed for computer scoring. While this battery can be analyzed on large groups, to establish quantitative equations for predicting a number of criterion measures of teaching performance (which have also been developed in this program), we find their chief use in a personalized approach to the guidance and instruction of the individual student teacher.

In the course of these studies, a number of new discoveries have been made about the specific development of teachers during their preparation. For example, Fuller has found a developmental sequence of "levels of concern" of prospective teachers. To illustrate these levels over-briefly, beginners tend to be occupied with questions of their own status in the eyes of the school staff, then with problems of discipline and their standing with the pupils, and only after these problems have been resolved do they show predominant concern with the learning needs of children and practical ways of fulfilling these needs. This is scarcely a surprising phenomenon, once it is pointed out, but it is significant that this is the first time in the history of teacher education that such a systematic inquiry has been addressed to the question of what teachers really care about, and turned into a systematic procedure for the assessment of future teachers. The most important concerns of any individual, of course, are those which are uniquely powerful in his own perception of his world. We have found that by attending to just such concerns, potent intervention is possible in the development of teaching effectiveness.

EFFECTIVE NEW PROCEDURES FOR THE EDUCATION OF TEACHERS

In the Texas program, we have devised three methods for personalizing the education of teachers which show significant results. The first of these is individual feedback to the student of findings from his personal assessment battery. A skilled counselor-educator analyzes the results of the assessment battery, then sits down with the student to talk about his major concerns, his long-range aspirations in life, his ways of going at these, and how this relates to his prospects as a teacher. Since so much depends on the skill and wisdom of the counselor in this operation, and since highly skilled people are always going to be in relatively short supply, we are also looking toward the possibility of developing self-instructional programs which will permit feedback by computer or by a series of printed, programmed procedures which would allow the individual to analyze and interact with the reported results from his assessment battery.

A second procedure is the use of video taped teaching sessions. The teacher can immediately sit down with the video tape, either alone or with a supervisor, to view his own performance. This can be done informally, or with the use of a systematized method for coding and analyzing the teacher's behavior from moment to moment. We have been at work on such coding systems, taking off from those of Flanders and others. This system is currently moving to a point where it is possible to describe the responses of both teachers and children in interacting sequences of behavior, and to relate these sequences to child learning.

A complementary technique has been developed at the Stanford R & D Center, known as micro-teaching. This consists of video taping a teacher with four students,

practicing one or two specified skills of teaching at a time, such as the use of questions, the use of non-verbal cues to students, etc. The Stanford approach is one of tactical training, it might be said, where the student is shown specific behaviors which make for effective teaching, is coached in them, and has recurrent opportunities to see himself on video tape, to tell where he is doing well and where he can improve.

The Texas approach has been more that of strategic education, it might be said. The student's behavior in the video-taped session is discussed with him in the light of all that is known about his individual makeup, aspirations and concerns. The focus is not on teaching and correcting him on specific tactics of his classroom behavior, but on giving him an opportunity to explore in increasing depth how his own makeup as a person is being expressed in his classroom behavior. The interesting thing is that both of these training procedures turn out to have similar beneficial effect on highly specific characteristics of teaching behavior. One next step which is contemplated is to compare the effect of these separate procedures with the effect of a combination of both procedures, to see if it is even more powerful.

A third procedure which has been tried at Texas is to make a psychological match between a given student and a particular supervising teacher who seems likely to maximize that student's growth. For example, a shy, uncertain but able student might be put with a supportive, encouraging supervisor; whereas another student who is equally bright, but has spent a lifetime learning how to get his elders to give him the cues about what they want, may be put with a supervising teacher who puts him entirely on his own and firmly declines to let him indulge in merely imitative behavior.

In general, while it may be slow in coming, it looks as though we already can foresee some rather revolutionary changes in teacher education which could be applied to the preparation of vocational teachers. Instead of the series of largely disconnected courses which now make up most professional education sequences in most states, it looks more and more likely that such divisions into rather theoretical lecture experiences should be replaced by blocks of time in which there is much more practice of actual teaching, much more specification of specific behaviors which are effective in given settings, with given pupils, and a great deal more individualized feedback to students of audio or audiovisual evidence of their own behavior patterns in the classroom. Much more detailed and much more accurate self-appraisal is possible under these circumstances. This is the kind of educative experience for which students have been asking for years, whenever they were given the opportunity to express their ideas. In recent studies we have found that the students were right: these procedures do seem to be more effective than the historically conventional approach. Needless to say, any such program is effective only to the degree that it is operated wisely and insightfully; if it is only seen as a different organizational strategy, it can predictably be expected to do no better than any organizational mechanism which has been tried previously.

In closing, it may be in order to state with the degree of modesty which the facts dictate, that psychological approaches to the understanding and effective guidance of teachers and students are not at the point of absolutely certain accuracy; nor is the knowledge we need already entirely in hand. A great deal more remains to be discovered, both factually and as concerns better procedures for influencing behavior. Perhaps the most promising note in the picture is the fact that we have increasingly clear and certain ways of asking questions and testing the answers, so that in the future we should less and less need to depend on mere newness and enthusiasm to guide our choice of educational strategies. Instead, we can depend upon more and more systematic and objective evaluation of the real effects of any educational program.

ANTHROPOLOGY AND VOCATIONAL EDUCATION

Vera Mae Fredrickson*

INTRODUCTION

When I received the invitation to address this conference on the subject of the contribution of anthropology to the training of vocational and technical teachers, I realized with a distinct sense of shock that although I had been actively, professionally concerned with the relations between anthropology and education for several years, I had never explicitly considered what anthropology might have to contribute in the vocational area as such; I had always seen vocational education as totally embedded in the system of education and my concern had been basically with the structure of the general educational system. Since accepting the invitation to participate in this conference, I have interviewed a number of persons concerned with vocational training, from administrators to teachers, to the students themselves, and I have reviewed the results of the latest research being carried out in the sphere of vocational education in the San Francisco Bay region of California. I must admit that to date, anthropology has contributed little if anything to the area of vocational education, at least not directly. One reason for this absence of contribution is related to the traditional (and perhaps I may say disasterous) split between academic and vocational training that has characterized our educational system for a number of years. This conference is an indication of the change that is taking place in this disfunctional state of affairs.

We are here, however, to consider what anthropology can at present and in the future contribute to the training of vocational teachers. We can begin with a basic anthropological concept which I hope has become an integral part of our modern view of man and culture. This concept probably has the status of a truism to most of you here. Nevertheless, it will be the assumption underlying my discussion in the sessions later today. This concept is basic to any anthropological analysis, theoretical or descriptive, of the directions in which the world and our country are moving.

All men everywhere have a set of common problems to solve in order to live. Possible successful solutions to these problems are extremely diverse. The reason for this diversity is that these problems, although they arise from man's basic needs, are always framed and solved in a sociocultural context among a group of persons who share certain behavior, goals, and general life style. The solutions to the common problems of living are both fashioned by and profoundly affected by this shared culture. This basic anthropological view of man and culture is deceptively simple in statement, but I believe it has profound implications in terms of application.

In a complex culture (and let us take the United States as our example), there are many diverse groups of persons who, while they are part of the generalized larger culture, also have mores, goals, and life styles that are particular to their special group. These mores, goals, and life styles may differ significantly from those of other groups within our national boundaries. From the point of view of the individual, these groups afford the context for normal everyday action. He learns the expectations of his culture and of his particular place in that culture through the groups in which he operates. It is in the context of groups that the individual obtains a measure of himself.

In any complex modern culture within which there is such diversity, we need a structure flexible enough to allow individuals within these groups both to retain their sub-cultural identities and yet to function successfully within the general culture. In our generation, the melting pot theory of assimilation (which holds that in two generations people from diverse backgrounds are indistinguishable from one

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another) has of necessity changed to a theory of what social scientists refer to as "cultural pluralism." I say "of necessity" since the melting pot model has not proved to be a realistic description of what is actually happening at this time. Currently, the question we ask ourselves is not, "Should people be alike or diverse?" or "how can we make people alike?" but "How alike do people have to be to live and work successfully in the general culture?"

It is from the point of view of this concept of the reality of cultural pluralism that my discussion of anthropology's contribution to education will derive.

Several points in Dr. Tyler's paper suggest to me areas in which anthropology may have something to offer to the training of vocational-technical teachers. As Dr. Tyler pointed out, we know that values, stereotypes, world views, degree of flexibility and rigidity, and, indeed, almost everything, is learned. They are learned in our example in a cultural context which includes the general culture of the United States in juxta-position with the many specific subcultures of the United States. It is perhaps more important that for large numbers of people, the actual context of learning is in small cultural groups with attitudes, perceptions, stereotypes and modes of dissent which may be very different as one moves from group to group. While these learned ways of looking at and dealing with the world may be perfectly effective, indeed, extremely resourceful within the context in which they are learned, they may prove less useful in other cultural contexts. For example, it has been pointed out that one career available in the urban ghetto is that of the "hustler." Within the ghetto context it is frequently a very successful occupation choice. The work is not hard and may bring rather large personal rewards. The skills necessary to a good hustler may also be useful in other areas of American life, such as salesmanship and politics. In their usual form, however, they are generally not successful when brought into juxta-position with such aspects of the general culture as local, state, or national law-enforcement agencies.

Again, as Dr. Tyler pointed out, many important factors which affect learning are not under the direct control of the teacher. Dr. Tyler mentions particularly the student's idea of what is expected of him by the school, the models with whom the student identifies, and the peer groups to which he belongs. These factors are intimately related to the sociocultural context in which the student lives. What should be within the scope of the teacher is the ability to bring these factors clearly to the attention of the students. We know that this is not only possible, but also probably necessary, since the student's image of himself and his view of the world appears to be the single most crucial factor not only in learning, but also in success in any job situation. Students should be taught not a particular way of looking at the world, but should be assisted to gain an accurate and realistic picture of their actual worlds, in particular, that area where their subcultural status overlaps the imperatives of the broader culture. It is obvious that the persons in the most sensitive position in terms of presenting a realistic world view of this kind are vocational teachers, who have among their students persons from extremely diverse subcultural backgrounds.

Dr. Tyler has asked whether teacher training programs furnish opportunities for developing more accurate perceptions. I ask you whether teacher training programs furnish opportunities to teachers for an accurate analysis of the cultural backgrounds of both themselves and the students they will be teaching? What opportunities are provided for the teacher to understand their own relationship to the larger culture?

There are several areas of current anthropological research which seem to offer fruitful insight about learning. Language-learning studies and primate behavior studies (Smith and Miller 1966; Hall (in press)) have been concerned with how the learning process operates. If there is one statement that we can make with confidence as a result of this research, it is that people cannot stop themselves from learning when in a social situation. It seems built into the nature of mankind, as in all higher primates, to react to other beings. It is clear that a teacher in reality teaches more than simple content. The human mind is constructed in such a way that sane human beings need to see a pattern. The pattern appears to be necessary to order external and internal stimuli and to create meaning from the stimuli (Smith and Miller 1966).

It is necessary for teachers to have an acute awareness not only of what they are saying openly, but also of what they are saying covertly about their own cultural backgrounds and the values and stereotypes which they themselves hold dear. I believe that we can be certain that the students "hear" this unspoken level, react to it, and learn from it. They do not always learn the lesson which we wish to teach. Again, who is in a better position than the vocational teacher to point out to his students the relevance of their being aware as to how cultural differences will affect his, the student's, interaction with the world--specifically the work world.

While anthropologists are concerned with man both as a biological and a social being, all definitions of race in our popular culture are essentially social. Therefore, from an anthropologist's point of view, and I am sure from the point of view of all of you, the question of race concerns us only as it is expressed in our culture in the form of racism, from the perspective of either the white or the black. Certainly, we are concerned with the results of racism as reflected in limited job opportunities. Racism is a fact in our diverse culture and strongly affects the social attitudes of people who have suffered the pressures of racism. Thus, the basic fact about the lack of any scientific basis for any kind of racial discrimination in the training of vocational teachers would seem useful. We know that all men are biologically adapted to learn language, to perform a fantastic variety of physical tasks, to cooperate, to enjoy art, to practice religion, philosophy, and science, and to acquire values, goals, and world views, no matter how incomprehensible these may appear to be to a naive observer (Washburn 1963). We are surely all aware of this, and I think we should be sure that all potential teachers and all their potential students are aware of these facts.

I wish once more to stress the important position which is potentially available to vocational teachers in our social system. Certainly, all teachers in our society conceive of one aspect of their role as widening the horizons of their students. Vocational teachers are, by the very definition of their subject matter, concerned with transition. They are centrally concerned with changing unskilled persons into skilled persons. They are concerned with changing an exclusively personal subjective orientation to an orientation which includes a rational objective perspective. Vocational teachers are at least peripherally concerned with enlarging an interest only in local matters to an interest in making decisions on regional and national issues. They are always mediators between at least two worlds: the world of those who know thus and so, and the world of those who don't know and the success or failure of their teaching is often immediately observable: Do their students get jobs?

It has been pointed out by an anthropologist that while the distance detween New York and Pango-Pango is steadily decreasing, the distance between the mechanic and the physicist is increasing daily. Who will bridge the gap? It looks to me like those who will be teaching the next generation of both the mechanics and the physicists are our best hope.

I

I have been asked to discuss the contribution of anthropology to the preparation of vocatonaal teachers. In designing the research for my discussion, I chose not to emphasize diverse anthropological findings which might have relevance to vocational education. My design was to determine what the main problems in vocational teacher training were, as described in the vocational educational literature and by persons who were actively engaged in the vocational education area. Only after these problems were defined did it seem relevant to ask: "What contribution could anthropology make to the training of vocational teachers vis-a-vis the problem areas?" It is clear that vocational education is an integral part of the formal educational system of our society. In our current society, however, vocational teacher education does face problems separate from those confronting our educational program as a whole.

The changing requirements of the work force, which result from our continuously changing technology, is a major problem. The assumption that people can complete their education in their youth is an outmoded cultural myth. There is also an acute problem in the recruitment of vocational teachers. The status of teachers is low, as are wages, when compared to wages available in industry and business. (It is possible by deliberate action to raise the social status of an occupation, partly by altering the objective character of the job, and partly by changing the attitude toward it (Marshall 1964). I take it that this is one of the aims in our concern with the training of vocational teachers. The teacher strikes of this fall are indicative of a new step in the process of increasing the status of elementary and secondary school teachers.) Another major problem within the field of vocational education lies in the fact that if vocational teachers are to retain their skills, it may be necessary that they move back and forth between industry, business, and school. Otherwise they will lose touch with technology, skill requirements, and market realities. The enormous range of persons to be educated under present vocational programs encompasses the grossly disadvantaged, through regular junior college students, to adult working citizens of the community. This range presents formidable problems of organization, content, and skillful teaching. A crucial problem related to the broad spectrum of subgroups represented by the student population is the counseling program. Not only are there not enough counselors, but they too often get out of touch with the constantly changing labor market, and too often have academic training without sufficient work experience. This lack of experience in the work force and in life frequently results in a lack of understanding of the realities in the lives of the

persons whom they counsel. The recruitment of vocational teachers, the range of students, and the problems associated with counseling are areas which relate directly to our topic. Perhaps anthropology can best contribute insight into the problems asssociated with the broad spectrum of students with whom vocational teachers work.

The data for this presentation were obtained from several sources: a review of relevant literature relating to vocational education, including the latest published research from the Department of Education of the University of California at Berkeley; anthropological literature related to education; and a series of interviews with persons directly involved in the vocational field.

We live in a complex culture which contains many diverse groups of persons who have behavior, mores, and life styles which are particular to the special group. These subcultures, or part-cultures, have a degree of coherency within themselves, no matter how bizzare and chaotic they may appear to outsiders. Although dependent upon, and an integral part of, generalized American culture, these groups may differ significantly in their behavior and mores. For example, we have in the United States a progressive equalization of the quality of material culture so that even though there are still great differences between the very rich and the very poor, both rich and poor present variations on a single theme in terms of the material culture. On the other hand, patterns of expenditure (the ways in which people spend their money) reveal distinctive subcultural differences even when incomes are the same (Marshall 1964). When a sub-society is also an ethnic minority group, racism may enter as an additional factor complicating the ever present ethnocentrism seemingly characteristic of all social groupings. Washburn (1962), in a presidential address to the American Anthropological Association stated that: "Racism is based on a profound misunderstanding of culture, of learning, and of the biology of the human species.... It is a relic supported by no phase of modern science.... We know, for example, that IQ measures not innate intelligence but the genetic constitution as modified in the family, in the schools, and by the general intellectual environment."

One of the values associated with our general American culture is equal opportunity, which I translate as meaning, in one sense, an equal chance to reveal differences without those differences eliciting hostile and penalizing consequences. This requires knowledge on the part of interacting individuals in all parts of the culture as to where conformity genuinely must be enforced and where we can afford to differ. Essential to this kind of knowledge is awareness that differences, or, speaking as an anthropologist, cultural pluralism, is the reality of American society.

Very little in the research literature which I reviewed was directly concerned with the training of vocational teachers. There was, however, a general agreement that vocational teachers need to have some understanding of the backgrounds of their students. Despite this agreement in the literature, an administrator whom I interviewed stated that the aim of vocational teacher education was "simply to train teachers to teach subjects in which they are already competent."

The President's Panel of Consultants on Vocational Education in 1963 gave an appraisal of the competency of trade and industrial teachers. The teachers were rated high in the skills of the trade, in the associated work habits, and in the objectives of vocational education. Apparently the goal stated by the administrator is being attained. The panel rated the teachers low in orientation to the total educational program of the community and in orientation to the vocational and educational services provided by the community. Question: is orientation to the community in these particular ways necessary for good vocational teaching? Because of the crucial position of the vocational teacher as one who has the potential to help students from diverse subcultures to achieve success in their relationship to the broader culture, I believe such orientation is necessary.

No vocational program can survive if the likelihood of placement is low. All authorities agree on this point. (Only in the graduate divisions of colleges and universities is there a comparable relationship between training and job placement.) There was some question in the vocational literature in regard to existing discrepancies between the claims of programs and the actual usefulness of the training provided by the programs. The Manpower Development Training Act authorizes training only for occupations in which there is a reasonable expectation of employment after the completion of training. One of the administrators in my interview sample pointed out that his program was offering a bare minimum of training in such areas as plumbing, since the plumbers union was not accepting new members. One of the counselors commented that the standard administration viewpoint was "any trained person can get a job," but with the unstated rider: "if he really wants one." This counselor did not feel that this was a realistic viewpoint. Jack London (1963) comments that "The number of new jobs created out of the expansion of our economy has...failed to keep pace with the increasing size of the labor force.

II

I interviewed six persons in six different positions in the vocational field, and numerous persons who were working at various vocations. Let me make it clear that I consider this sample to represent the relatively informal opinions of the actively involved professionals who were interviewed. The statistical worth is negligible. The persons active in the vocational field were: a research and planning administrator; an industrial trades administrator; the supervisor of the vocational program in a junior college; two vocational counselors, one in a junior college program and the other in a federally funded program; and a basic skills teacher. All had college degrees, several had advanced college degrees. All were committed, at least verbally, to vocational education.

The major questions which I asked were: 1) What do you believe to be the most promising and interesting activity going on in the field of vocational training today? 2) In your opinion, what are the major problems in the field of vocational education? 3) What do you think anthropology could contribute to the training of vocational teachers?

All six individuals agreed with the emphasis in the vocational program on the basic communication skills and the necessity for the vocational teacher to have thoroughly mastered them and to be able to teach them when necessary. All six persons were aware of the problem of recruitment of teachers, that is, they knew that potential teachers could make more money in industry and business than in teaching.

The three administrators all stated that funding had been a major problem in the vocational program until the Vocational Education Act of 1963. The administrators felt that while vocational programs had not been entirely successful in the past, it was only now that the programs were beginning to get a really fair test. None of the administrators indicated any interest in possible contributions of anthropology, or any social science, to any aspect of the vocational program, including the curriculum for students and teachers. One of the administrators did state that he understood that a local commission was planning on adding a course on "The Core City" to the high school curriculum and that this was "probably a good idea."

In contrast with the administrators, the counselors and the teacher agreed that some kind of training in cultural understanding was necessary, most particularly for counselors on all levels. The teacher stated that it was "not enough for the teacher to respect' ethnic differences; the teacher has the burden of responsibility to positively push students into exploring their own group identity." This teacher added that all teachers should "tell it like it is."

One counselor proposed seminars with the students to explore their cultural backgrounds, and he also suggested that teachers present "a real description of our society." The other counselor stated that the average counselor assumed that an initial vocational choice was a permanent life-time commitment; that the average counselor seemed unaware that in many areas of our society people have several different jobs, often in different vocational areas; and that some people have two or even three spearate careers at different times in their lives. My informant regarded the "choice as commitment" viewpoint as demonstrating a lack of awareness of the realities of American society.

Drawing upon the information given by my informants working in various vocations, the counselor's generalization appears to be accurate. For example, the owner of a beauty shop, who had learned her profession at a beauty school, had just prior to taking the beauty course completed a professional business course; an iron worker with a specialty in elevators had his original training in welding; a union longshoreman had for fifteen years been a skilled agricultural worker; a successful potato farmer in his thirties went to college to become an archaeologist; a practicing labor lawyer became a bar proprietor and is now a newspaper editor; and the owner of a large construction company went back to school and became a professor of art history. I'm sure that everyone can furnish innumerable examples of his own without interviews.

Clearly, in my interview sample of persons in the vocational education field, there is a marked difference of opinion between the administrators as a group and the counselors and the teacher as a group in regard to the need and desirability for courses in culture and society for teachers and students. A possible reason for this difference is the respective distance of the two groups from the vocational students. The counselors and the teacher are in direct contact with individuals from a multitude of subcultures. Of the students, some, both young and old, are those who have been unable through choice or circumstance to learn either the technical or social skills necessary to cope successfully with the work world. The administrators, on the other hand, are most often in contact with individuals who have successfully learned these skills. In addition, because of their position in the vocational education structure, the administrators'

point of view is generally that of the world of production, services, and labor markets. They are of necessity most concerned with funding, finances, programs, techniques, and other formal matters. The counselors and the teachers, who are actually implementing the programs, experience directly the affect of sociocultural factors. They also seem to be aware of some discrepancy between the employment realities of our society and divergent assumptions about employment which seem implicit in vocational education programs.

To quote our teacher: "You have to teach the students to play the game, they'll never make it otherwise." This basic skills teacher gave two examples which vividly illustrate the necessity of teaching students how "to play the game." Both examples were associated with filling out job application forms. The section for references on the applicaton form is frequently understood by the applicant to mean those friends whom the applicant likes best and upon whom the applicant can depend. According to the basic skills teacher, it is the teacher's responsibility to make clear that a "reference" in the work world means a person with property or a respectable reputation in the community, irrespective of personal character. Students often have difficulty in understanding the necessity for selecting references on the basis of property rather than trustworthiness.

The second example given by the basic skills teacher illustrates differences between the broader culture and one subculture in emotional responses to words. A student on a practice application form, in the section relating to police record, wrote "convicted of murder, third degree." The teacher in a private interview ascertained that this was the student's usual answer to this question. She pointed out that "felony conviction" was the acceptable answer, and she then had to explain that although in the student's world a spade might regularly be called a spade, in the work world, "felony" might get him at least a job interview, while "murder" would assuredly not.

Although the viewpoint provided by the basic skills teacher seems to me to be valid, she does not appear to be a typical vocational teacher. She is one of the small percentage of vocational teachers that have completed a master's degree, which included some training in the social sciences. She is a member of a minority group. These factors, while making her atypical, also allowed her to analyze some of the reasons why vocational teachers who have students from subcultural groups should be aware of their own backgrounds.

The basic skills teacher designated herself as an upward mobile person, who had encouraged her two oldest children to attend college in preparation for professional careers. She had worked for years to save money for their tuition. She had stressed good study habits, self-control, high professional aims, late marriage, hard work, and an intellectualized Christianity. Although she was highly motivated to teach in the basic skills program, she experienced several severe conflicts almost immediately. The first conflict was between her absolute ethical standard which specified that her students be "honest" in job applications, and her gradual awareness that she had been able to "afford" to be honest, since she had nothing to conceal or modify. Aside from her membership in a minority group, her subcultural training had been such that she easily met all the requirements of the work world that she had chosen. When I interviewed her, she had recently concluded that teaching her students to "play the game" in relation to the wider culture was not only ethically legitimate, but absolutely mandatory. She had also, in the course of diligently preparing and presenting historical instructional material genuinely relevant to the several ethnic minorities in her class of students, been chided by the one Caucasian class member for "leaving him without a history." At the time of the interview she was deeply involved with three areas: finding appropriate instructional material for her Mexican-American students and attempting to understand their particular background which was totally unfamiliar to her; observedly attempting to change her language patterns in order to communicate more effectively with the Negro students in her class who originated from a subculture different from her own; and devising a method to make the spelling of simple words interesting to her students. The comment of this teacher in regard to the possible contribution of anthropology to the training of vocational education teachers was: "The basic field work approach; learn the culture before you judge it."

III

In California, requirements for vocational teacher credentialing are set by the state with a required number of education courses. The training schools (not the state) determine the electives. In general the training schools divide elective units into three categories: 1) basic communication skills, including mathematics; 2) technical courses for upgrading and broadening vocational skills; 3) professional preparedness, which includes "in the classroom" techniques and special education areas, such as supervision. The elective which a teacher trainee takes are based on recommendations

made by the teacher trainer. When the teacher is actually working while completing degree requirements, the supervisor at the teacher's place of employment makes recommendations.

The teacher trainer, however, is influenced in his recommendations by an advisory committee, selected by the school, composed of local people from business, industry, education, and the community. The role of the committee is to advise on curriculum on the basis of their realistic knowledge of the needs of the community in terms of a labor force. For example: "What does an auto mechanic need to know in our region?"

In an interview with an administrator, I asked whether any teacher trainer, advisory committee, or supervisor had ever in the informant's experience recommended units in the social sciences. The administrator replied that one supervisor had on six different occasions recommended courses in anthropology for teachers he was supervising. Unfortunately, the administrator could not recall the name or location of this supervisor (he only remembered the situation because it was so unusual). We are left with the tantalizing question of whether this supervisor was an individual who believed that all vocational teachers ought to have anthropology as part of their training, or whether his school was situated in an area where the lack of cultural understanding was seriously affecting the teachers' success with their students. It seems likely that in making recommendations on curriculum, the supervisor who is nearest to the student training situation may be more aware of the need to give teachers a better understanding of their students' backgrounds than either the teacher trainer or advisory committees.

The advisory committee, although composed of rational, well-intentioned men who are realistically informed about the local labor situation, tend to have a "training a pair of hands" view of vocational education. Teaching which is based upon this point of view is likely to result in, at best, a "foreman-worker" relationship, and, at worst, an authoritarian relationship which ignores the reality of the student and his life. The latest studies on primate learning (and we are all biologically primates, even if primates with a difference) make a basic distinction between two learning situations and their results. In "fear" situations, learning is confined to highly specific behavior patterns, learned as reflexes without evaluation. These patterns are very difficult to unlearn. In "exploratory" situations, learning is innovative, flexible, and creative. This is the kind of learning that allowed for the development of culture among primates.

This material is applicable to human learning. For example, authoritarian learning situations preclude real human creativity, such as innovating in the realm of technology. The primate studies also stress that "normal" nonreflexive learning must take place in a nonthreatening, warm social environment. This has two implications for human learning: 1) conclusions drawn from the laboratory learning studies by experimental psychologists may not be totally valid, and 2) schools and teachers that cannot create a good social environment for learning are inhibiting the learning process.

If the teacher's view is that the student is a "pair of hands" to be trained for the labor market, the teacher may find himself encountering resistance that he cannot explain. No one thinks of himself as a unit in the labor force, and it is probably unwise for planners of programs to think in these terms. Kimball and McClellan (1962) point out that despite the "protestations of the professional educator (usually a non-teaching specialist) that each child be hand-crafted in terms of his individual needs, the process more nearly resembles an assembly line operation in which a conveyor belt receives the roughly stamped bodies at one end, and after modifications and additions, delivers them as finished products at the other." They add: "The temptation to draw further comparisons by allusions to chrome plating, body trim, and tail fins must be resisted." Research in industry indicates that organizations which emphasize the chain of command, inert bureaucracy, and excessive supervision produce workers who are apathetic and hostile (Argyris 1957).

IV

Perhaps I seem unduly harsh in reporting the attitude of administrators. One of the administrators in my interview sample described a prevocational program which will be tested in one of the cities in the San Francisco Bay region. This program is an excellent attempt to solve a problem in the vocational area that is related to one of the outmoded ideas held by many people in our general culture. This outmoded idea holds that there is no specific need to educate children in regard to vocations. They will either "go to college" or "get a job." We know that parents who want their children to go to college will make great efforts to ensure that the children receive the necessary educational background. Many parents, however, have very limited knowledge of the range of careers open in our society. I recall one father, who for the entire period of his son's maturation, insisted that the son work toward the goal of a college education. When the young man, who was both intelligent and ambitious, finally

completed his doctorate in English literature, the father bitterly remarked that his son had "gone too far." What the father had in mind for his son was a comfortable career as a dentist.

Parents who do not have college as a goal for their children have even less awareness of vocational possibilities, since they are usually judging on the basis of their own work experience. We do know that members of minority groups, by the nature of circumstance, frequently have very narrow work experiences. The program which will be initiated in the San Francisco Bay area city is designed to educate the children, not their parents.

In Grade 7, thirty-two vocational units are listed. Each student spends one hour per day for one week on each of these units. Each of the week long units explores the basic skills necessary to one vocational area, providing an opportunity for the student to handle some of the equipment involved, and concludes with a film strip giving an overview of the total job range within the vocational area. For example, in plumbing the range would be from maintenance to water engineering.

In Grade 8, the students would select three areas to investigate intensively. Included in this exploration would be small group counseling sessions designed to assist the student in learning the professional and personal requirements within the vocational areas. The proposed counseling sessions at the Grade 8 level offer the opportunity to explore with the students their own backgrounds in relation to the "personal" requirements of the particular vocational area. The counseling is not a suggestion for a "personal therapy" approach. Morris (1967), in his discussion of the employability of welfare recipients, recommends group counseling as part of the regular curriculum.

Morris also comments, however, that a personal therapy approach to unemployed persons is questionable since it shifts the responsibility to the individual and away from a serious consideration of the life conditions and resulting cognitive orientations of the individual. I would add that a college trained therapist or counselor, who does not share the sociocultural background of his client would do well to examine his definition of "problems" in light of the values and behavior conventional in his clients' backgrounds.

In Grade 9, the student would choose one vocational area of concentration and begin to acquire some of the basic required skills in that area, for example, typing. A University of California, Department of Education, report on junior college programs (Matteson 1966) suggests that the introductory course for each major include a unit on job opportunities and the levels of work within the occupational field. This seems like an excellent idea for programs in all schools.

Part of the impetus for the pre-vocational program just described derived from a research project conducted in Texas on occupational choices of high school seniors. A total of 16,000 high school seniors were investigated to determine who most influenced their vocational choice. Interestingly, most individuals had made a tentative vocational choice by Grade 9. In my interviews with persons active in vocations as workers, all mentioned Grades 9 or 10 as the period during which they had made their first vocational choice. One individual volunteered that he made a choice because he got tired of being asked by adults "What are you going to be when you grow up?" and not having an easy answer. This informant also suggested that this was the age when both adolescents and adults feel a need to relate to one another on a rational social level and the topics of mutual interest are very limited, hence the constant question: "What are you going to be when you grow up?"

In the Texas study, the three persons listed by the high school seniors as influencing vocational choice were, in order of importance, 1) the student himself, 2) his mother, 3) his English teacher. Vocational counselors, I believe, were ninth on the list. Clearly then, the student needs an early introduction to all the work alternatives available so that his choice is not restricted by his own inexperience or by the limited work experience of his parents.

It is intriguing to question why English teachers appear on the list in the top three categories. Is it because they have such a full mastery of communication skills? Is it because they are the source of literature which introduces many students into an awareness of previously undreamed of ways of living and making a living? How do they influence their students to "think about" what their career choice will be?

V

When we were discussing problems of various sorts in the vocational area, I asked my informants what they personnly considered to be a "real" reason for a lack of

success on the part of vocational students. An administrator stated: "I know what the problem is, parents simply don't provide their kids with a model of what it is to work for a living. That's all it is. They just aren't taught to work. Why I rode a bicycle to high school, I never had a car like these kids do now." The basic skills teacher stated: "We have to lie to our students and they know we're lying. There aren't as many jobs as we tell them and a lot of them aren't going to get them anyway."

Of course, both informants, the administrator and the basic skills teacher, were stating partial truths about society from two very different positions in the society. The administrator was accurate in his observation that one of the current cultural problems is apathy toward work on the part of young people. He also correctly observed that many parents do not hold up as a model for their children a commitment to a vocation. I believe, however, that to regard this as simply a "spoiling" of this generation is not very helpful. One of our cultural facts, and one that is a built-in mechanism for culture change, is that parents very often educate their children to desire that which the parents lacked. This is part of our cultural values about the ability to better one's life, and if not one's own, then one's children's. In our time, to many people this means higher education, rather than learning a trade. In addition, our administrator was harking back to an ethic of hard work for its own sake that is apparently not viable in our present culture.

The basic skills teacher was speaking for her students who come from the lowest socioeconomic strata of our society. Despite their inclusion in a federally funded training program, the students suspect on the basis of previous experience, including that of their own subcultural backgrounds, that they are among those who have been defined as not worth educating or training. Opportunities for varied life style choices have not been widely open to them. It will require successful work experiences to counter this basically suspicious orientation toward the broader world.

What have we said so far? We have said that our complex society has cultural pluralism. That there are many part or subcultures, coherent, structured societies of individuals that share aspects of culture such as mores, behavior, and attitudes that differ significantly from those same aspects of culture shared by other groups in our society. These mores, behavior, and attitudes are learned within the sociocultural context of the subculture. These subcultures are very much a part of and dependent upon the larger culture of the United States, particularly in some of the areas which most concern us here, such as earning a living and acquiring a formal education. There may be great differences, however, in some aspects of subcultural behavior directly connected to earning a living and acquiring an education in the larger culture. I have in mind differences in the use and meaning of language, in patterns of expressive behavior, world view, and interpersonal relations. These part cultures can also be recognized by the fact that the members make a distinction, however vague and shifting, between their ways and the ways of outsiders. This distinction is also made by the outsiders.

We have said that these subcultures are one of the realities of the educational world of vocational teachers. We have been interested in the question of whether the reality of subcultures and their results on the behavior and attitude of individuals should be recognized as significant by those persons concerned with planning vocational programs, training vocational teachers, and educating vocational students. We are concerned with the question of whether anything in the training of vocational teachers specifically prepares them to understand and effectively deal with possible subcultural differences in themselves and in their students. If our analysis is correct, effective vocational teaching must depend at least partially on such understanding.

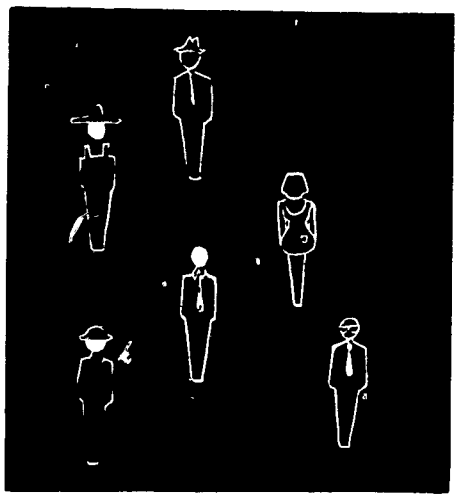
In regard to this conference, it was suggested that I consider the problem of what courses in anthropology might be included in the curriculum for vocational teachers. The following suggestions list not courses as such, but rather areas of knowledge from which courses might be developed to meet the needs of specific teacher training programs. I note that three of the four major specializations within anthropology are represented in these suggested areas of knowledge: physical anthropology, cultural anthropology, and linguistics. The fourth specialization within the broader field of anthropology, archaeology, does not seem to have anything to contribute in this particular circumstance.

1. The biological nature of man and the general nature of culture. This would include an analysis of biological race and social racism.
2. The nature of complex societies and the social structural correlates of technology. Useful here would be a comparative analysis of the society and culture of a technologically advanced country that has developed different solutions to some of the same social and educational problems that we face in our society. Russia, for example, has some interesting social variations. However their solutions are perhaps too similar to ours. I suggest Japan as a good contrast.

3. Language. This would include the functions of language and the relationship between language, its sociocultural milieu, and perceptions of the world. This is relevant both to subcultural uses of language and to basic communication skills.

The time has now come to exercise some of our basic communication skills in questions and discussions.

Thank you.



RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION

RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION

Gordon I. Swanson*

INTRODUCTION

The present generation of educators is giving more attention to an exploration of the future than any previous generation. The reasons are obvious. The first is that we simply must do it. We are confronted with such overwhelming problems of population, of food supply, of environmental control, of technology, that we cannot afford to let the future take care of itself. The second is that we have unprecedented technical capacity for looking into the future. New agencies and institutions are being created to employ sophisticated equipment for future-oriented projections and predictions.

If forecasting the future were only a technical problem all of the rest would be easy. If the future consisted entirely of cumulative technology, we could rely on technology to give us all of the answers. But the future also depends on what is happening and what will happen as a result of the choices that men will make and the values which condition these choices.

At this point the present generation faces several dilemmas. When we are presented with enormous technological capability for exploring the future we are faced with the greatest uncertainty about desirable objectives and the choices that we should make among them. We also begin to recognize the fundamental difference between technological science and behavioral science. It is not merely the fact or the allegation that behavioral science is less developed. It is also the fact that behavioral science must operate with some criteria about what is important and what is not, with some sort of notion about what kind of a being man is and what he hopes to become. Behavioral science cannot escape the question of value judgments and it is at this point that choice becomes the least predictable part of either the present or the future.

It is also at this point that the present generation has an aroused interest in teacher education. The reason is twofold. The first is that the futures most important vehicle is education, and the second is that the influence which any generation has on the future is mainly its influence on how the next generation will be educated.

Above all else, teacher education deals with building a professional commitment. Its most important features include its professional content and its subject or teaching content. General education, however this is defined, is important but there is no reason why it is more important or less important for the teacher than for anyone else. The problems of the teacher, as with all professions, are the problems of practice.

If this brief and imperfect introduction describes an acceptable rationale, then a further examination of the vocational teacher's role is the next step. This role is not a concept or a function that is easily defined or understood. Before it is possible to assess its emerging approaches, it is necessary to describe the range of definitions concerning its current status as well as the forces at work which determine its current direction.

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DEFINITIONS AND CURRENT STATUS

Professor McGrath[1] claims that any real understanding of professional education in this country must rest on a review of its various institutional stages. With minor deviations, all professions, according to McGrath, have traveled a common course. All have gone through five distinct stages.

The first stage was the apprenticeship, a stage in which the future professional indentured himself to an established practitioner. At first the apprentice was assigned the tasks involving drudgery or routine. In the final stages the apprentice was permitted to take full responsibility in the role of a professional. The final step came when his master certified him as a practitioner. This step was later assumed by a state board of examiners or a state board of certification.

The second stage saw the development of proprietary schools. This stage had more applicability to the professions of law and medicine than to education. Practitioners banded together into teaching groups, levied fees on students and shared the income. The proprietary schools usually had legal authorization through state charters. Their standards were low and uneven. Students were rarely separated into classes.

The third was the university school stage. Here professional preparation entered the university community either through affiliation with a university or by emerging within a university setting. Instruction began to include prescribed studies within an organized curriculum. A new set of standards emerged for professional preparation.

The fourth stage was the preprofessional-requirement stage. This stage saw the organization of professional schools within universities. Members of the profession recognized the need to have preprofessional requirements and to stipulate what these should be. They also saw a need for the professional schools to establish their own entr ce requirements and their own graduation standards.

The fifth and final stage is the general education stage. According to McGrath, it is the present-day phenomenon. It is a stage in which professional preparation includes much that is not directly related to practice. It is a movement toward broader educational goals and a broader liberal education. This, McGrath states, is needed for professions to build "prestige" and to continue their "preferred social status" and leadership.

The five stages, offered by McGrath as a basis for acquiring a real understanding of professional education in the United States, are also shown, at least by implication, as measures of maturity and progress. But progress should also have some criteria about what is important and what is not. Without such criteria progress may be available only at an excessive cost. In examining the stages of evolution in professional education, one sees a constant shift in emphasis from a task orientation to a status orientation. He also sees a constant lengthening of the period of preparation for the professional. With this lengthening of the period of preparation there is increased selectivity of future professional based, however, on persistence rather than on performance as a practitioner.

There is much evidence that professional education in vocational fields has not moved through the five stages. There is evidence that for specific purposes all of the stages still contribute to the professional education of its teachers.

Another view of the professional in education is provided by Professor Harry Broudy[2], one of its most articulate spokesmen. Broudy's view is of unusual interest to us because of his concept of "special content." To understand this concept, it would be most helpful to give the entire context of his view. First of all, Broudy finds much utility in the concept of foundation studies but he dislikes the terminology. Broudy would agree with those who believe that foundation courses, like foundation garments, have a tendency to create images which are neither realistic nor reliable.

Broudy's argument runs something like this: First, a profession, as distinguished from a science or a trade, always terminates in a transaction between a

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[1]Earl J. McGrath, Liberal Education in the Professions (Teachers College Press, Columbia University, N. Y., 1959), pages 29-34.

[2]Harry S. Broudy, "The Role of Foundational Studies in the Preparation of Teachers," Improving Teacher Education in the United States (Phi Delta Kappa, 1967), pages 1-22.

practitioner and a particular task performed for a client or for a group of them. The problems of a profession are, thus, the problems of practice and the function of teacher education is to develop sophistication with respect to this professional role.

Second, the base of knowledge for professional education is a layer of knowledge that lies between the traditional disciplines and practice. This layer of knowledge has its own identifiable features, its elements of structure and a basis for utilizing and improving theory. This layer of knowledge is not to be regarded as a transmission belt for merely carrying the recorded wisdom of the traditional disciplines to a wider audience. It also has an interpretive function. In the hands of a professional, science, for example, is not merely an extension of man's thinking; it is also an extension of man's tool-using capacity.

Third, the layer of knowledge which describes the area known as professional education is in need of further development and sometimes in need of repair. Most of all, there is need for the professional to develop some likemindedness about what constitutes this body of knowledge. As this is done, education workers have the advantage of cognitive categories, maps and languages by which to systematize their thinking about problems common to the field of education as a whole and also to their own specialty.

Professor Broudy's thesis is culminated with a "design" for a professional curriculum. Although stated in general terms, this design is application to vocational education and its particular relevance to vocational education would repay study by all vocational educators. I would like to reshape this design for applicability to vocational education. In doing this, the role of content and special content becomes more clear. It would have four dimensions:

The first dimension emphasizes the problems of practice, the underlying reasons for the existence of a profession. The problems of practice include:

a. Aims and policies--their formulation and justification.

b. Curriculum--its design, utilization, and incorporation of content.

c. Organization--of teaching and of education systems.

d. Teaching--learning--its special problems.

These problems may be engaged in courses or in research but even more important is the fact that they are general problems of practice which transcend the entire profession as well as the other three dimensions of the vocational curriculum and all of its sub-specialties.

The second dimension emphasizes a study of the scientific or humanistic inquiries into education, namely, the philosophy, history, psychology, sociology, economics and anthropology of education. This dimension is also general, but it is not to be regarded as general education. It is a necessary dimension of the professional curriculum because of its interpretive value. It is a dimension whose focus is on the problems of education rather than on the problems peculiar to the related disciplines. The second dimension, like the first, has general applicability to all members of the profession.

The third dimension may be referred to as the "foundations of vocational education." It is a dimension of specialization. It includes the philosophy, history, psychology, sociology, economics and anthropology of vocational education and its sub-specialties. It is not a proliferation when the interpretive studies of education are applied to problems of practice within the specialties of vocational education. The historical development of agricultural education and the economics of education in agriculture is quite different from the history or the economics of mathematics teaching or physical education or school administration. The cultural history of the distributive occupations has a special and unique relationship to teaching in that specialty. The student who expects to become a specialist in the teaching of vocational education should become familiar with the special history, psychology, philosophy, sociology, economics and anthropology of this teaching field, of the special subject he is preparing to teach. These foundations should be acquired from those who are themselves specialists in the teaching of the vocational specialty and who are prepared to give specialist's view of interpretive studies.

The fourth dimension of a professional vocational education curriculum might be regarded as the "technology of special fields." This is the part of the curriculum where vocational and technical content has the prominent position. This dimension

has three parts. It consists, first of special content. Special content is subject-matter prescribed by, or offered by, a vocational specialty because it serves special requirements in teacher education. Special methods and special content are frequently linked together for the purpose of preparing teachers in vocational fields. This will be referred to again in a later section of this paper.

A second part consists of special technical skills. These may be acquired through an experience requirement or through other curriculum arrangements. They consist of the technical skills and procedures which a professional is expected to exhibit in his practice.

A third part consists of internship or practice teaching. This needs no elaboration. It is an axiomatic part of professional preparation.

A vocational teacher education curriculum containing the dimensions suggested by Professor Broudy, and as illustrated here, is not common in vocational fields. Vocational teacher education has not been the most innovative in education. Some of our own colleagues in other fields of education have only tolerated it, universities have merely acquiesced to it, and even in the Vocational Education Act of 1963, it was almost forgotten.

Commenting on the rationale and place of vocational education, Edward Meade and Marvin Feldman, Program Associates of the Ford Foundation, have this to say about the preparation of vocational teachers. "....since there is little reason to worry about the educational value of the vocational process, a major criterion in the selection of vocational teachers is that only someone who has had long experience in his vocation is capable of teaching in a vocational program. Yet to meet the vocational content of today's vocational process, we need some institutions to train vocational teachers. But no major institution of higher education has given full attention to what should be its role in educating teachers for vocational education, despite the fact that they freely find fault with the existing patterns for securing and educating vocational teachers. The universities are quite content to build up fine vocational education in its other aspects, perhaps, out of intellectual snobbery." In further comments regarding the relationship of vocational education to general education, the same authors have observed that "partly through ignorance and omission, general educators have contributed to 'educational apartheid'--keeping the vocational system separate and away from the regular operation of the school."[3]

The observations of Meade and Feldman, together with those of McGrath and Broudy help to provide a context for an examination of the content fields of vocational education. Let me hasten to say that I don't believe that any person has the competence to deal effectively with all or even most of the content fields represented in the vast and growing area which we refer to as vocational or occupational education. The organizers of this seminar have appropriately decided that these discussions should occur in specialized groups. If a general discussion has any value as a prerequisite to this, it might be in an effort to examine some of the factors which cause us to take a closer look at the role of subject-matter in vocational teacher preparation. The implications of these factors may merit the attention of special fields. Let's look at some of the factors.

1. The first has been the rapid advances in technology. Here I do not wish to emphasize the drama of the advance but rather its direction. In Agriculture, technological advance has accomplished far more in increasing output-per-man than it has in increasing output-per-acre. It has resulted in an increased return to physical, and mainly technological, capital. It now highlights the importance of human capital because human capital, in the form of education, now begins to determine the limits and thus the further opportunities available through physical technology.

In industrial applications, there are also new directions. In 1967, the average automatic washing machine has a more complex wiring system than that of the average American factory of 1945. Yet a vocational program at the secondary level prepares repairmen to deal effectively and efficiently with both the electronic and the mechanical aspects of repairing the machine. There are numerous examples from other fields which can be cited by specialists. Every special field has been effected by new directions as well as advances in technology.

2. Secondly, universities have become less and less committed to providing the major subject content of occupational fields included in a modern interpretation of vocational education.

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[3]Edward J. Meade, Jr. and Marvin J. Feldman, "Vocational Education: Its Place and Its Process," The Journal of Human Resources, Vol. 1, No. 1 (Summer 1966), pages 70-72.

Universities have begun to be as interested in transfer students as freshmen. They have begun to concentrate more on upper division studies and on graduate work. Colleges and departments previously relied upon for subject-matter have begun to change their emphasis in directions away from occupational education and the content desirable for vocational teachers. Business schools now give more emphasis to business management and the problems of the large corporation. Technology schools at the university level have moved through evolutionary stages wherein their view of the occupational world is hardly relevant to the patterns of skill learning which must be considered by vocational teachers. The change in university emphasis is a factor which should prompt another look at the appropriate way to institutionalize the acquisition of subject content in vocational fields.

3. A third factor is the role and relevance of occupational experience. It is likely that the occupational experience requirement of Smith-Hughes Certification is no longer appropriate. Perhaps it is time that this be thoroughly reexamined. It may be possible that occupational experience should be a larger component of professional and in-service preparation. It is not necessary that it be packaged as collegiate courses and credits. Even if it were not packaged this way, it may retain an important role in the subject matter preparation of a prospective vocational teacher. Occupational experience may serve as a partial substitute for formalized preparation in content fields. The variety of ways in which this may be accomplished would repay study by vocational educators.

These factors suggest that it would be interesting to contemplate the state de novo, as if no academic traditions existed, and as if we were faced with the opportunity to plan a new teacher education program based on the present, and our best estimate of the future. Even if this were possible it would be necessary to look carefully at the natural dynamics of our present stage of industrialization and the forces at work within it which effect vocational and technical education. It is not the purpose of this discussion to present a catalog of these forces, though I will mention a few since they are related to the emerging approaches to professional education which will be discussed later.

FORCES AFFECTING VOCATIONAL EDUCATION AND ITS TEACHER EDUCATION

The first of these forces I will call the myth of urbanization and its vision of a population of 200 million crowded tightly together. It is true, of course, that 70 percent of all Americans now live in urban places. But this should be viewed in the context of the United States Census Bureau's definition of urban. To them any village containing 2,500 people or more is urban. A town of 2,500 or even 25,000 people would hardly be of a size to provoke unusual problems.

The 1950 Census revealed that 58.3 percent of the nation's population lived in rural areas or in cities of less than 50,000 people (15,000 families). Only 9.8 percent lived in cities of over one million and of the 6,000 legal cities in the nation, only 5 had populations of more than one million. Since 1920 the proportion of the population living in urban places of under 50,000 has increased by 50 percent while the proportion of the population living in cities of over one-half million has increased only slightly. Population increase has occurred mainly in the cities ranging in population from 10,000 to 50,000.

Does population density describe the urban problems? The accepted minimum measure of an urban environment is 1,000 or more persons per square mile. The measure of suburbanization is 500 persons per square mile. Seventeen states do not have a single county with a population density of 500 persons per square mile. In only 24 states can a single county be found with a population density of 1,000 or more.

It is clear that American citizens prefer an urban setting with a low population density. It is also true that some critical problems in a few large cities may have distorted our view of the urbanization process. This has importance to vocational education. The critical problems in a few of the large cities have led to recommendations for more jobs and crash programs of vocational education. It is not likely that vocational programs will, in this setting, relieve the causes of the problem or deal effectively with its symptoms.

A second dynamic influence is the historic tendency of the industrial system to require a smaller proportion of labor relative to the total labor force. In 1929, manufacturing, transportation and public utilities supplied 46 percent of all wage and salary jobs. In 1966, these industries, even with the help of government contracts, employed only 36 percent of the total wage and salary earners. During the decade of the 50's the entire private sector provided only one out of every six new jobs; the remainder arose from government purchases, government employment or

nonprofit institutions. During the same period there was a relative decline in self-employed in all sectors. These trends show a consistent pattern of decline in the percentage of wage and salaried employees in labor force engaged in manufacturing, transportation and public utilities as well as in agriculture. The decline in agricultural employment is consistent with a general decline in the percentage of self-employed. They also show that, in the creation of new jobs, there is a cluster of new employers. These trends occupy a large time-frame and they are not greatly affected by the number of skilled workers available in the various occupational categories. Thus they effect long-term planning in teacher-education rather than its short-term cycles.

Of particular concern to vocational educators should be the decline in the self-employed in all sectors. Vocational education does not have only a narrow job filling function. It is not merely a dependent variable. It also has a job creation function. Hopefully, a vocational education should allow its students to aspire to become a supervisor, a manager, and an owner. Vocational education need not become a willing participant in the decline of entrepreneurial skills. It can and should include an unique component of creativity, namely, entrepreneurial behavior, as an important part of its educational function.

A third force, which I have emphasized in a previous paper[4], is the influence of the goal of full employment when its determination is guided by fiscal and monetary policy. When unemployment is high (more than 5%) and when labor force participation rates are low, vocational education becomes increasingly fashionable and, at the same time, the field is subjected to increasing criticism because of the appearance that it is training workers for jobs that do not exist. When unemployment is low (under 4%) and when labor force participation rates are high, an increasing number of the unskilled are absorbed into the labor force and vocational education becomes less popular. The return to individual investment in training also appears lower. This cyclic phenomenon, guided largely by fiscal policy has a large effect on vocational education but there is no reciprocal influence. Vocational educational programs have a minimal effect on the nature or the degree of employment or unemployment. This phenomenon is important to recognize in planning or evaluating vocational programs and teacher education programs.

EMERGING APPROACHES TO PROFESSIONAL EDUCATION

I now turn to the emerging patterns in the content organization of vocational teacher education. These patterns do not have boundaries that are well marked or clear. Nor do I have a vantage point from which to see them without some distortion of view. Fortunately, The Center for Vocational and Technical Education at Ohio State University has published a monumental seven-volume series entitled "Review and Synthesis of Research in Agricultural Education, Business and Office Occupations Education, Distributive Education, Home Economics Education, Industrial Arts, Technical Education, and Trade and Industrial Education." With the assistance of this valuable series, I have prepared a brief description of five approaches to content organization in vocational education which appear to be emerging with new or renewed emphasis.

The first approach is the development of new schemes for designing, analyzing, and comparing vocational curriculums. These schemes are based on the earlier formulations of Bloom[5] and Krathwohl[6] in which they put forth their famous taxonomy based on an educational objective having three domains; cognitive, affective, and psychomotor. Such taxonomies are valuable because they provide a common language, they allow logical ordering, they permit evaluation and they provide a basis for curriculum reorganization. Taxonomies for the cognitive and affective domains have been published. For the first time the psychomotor domain is receiving a significant amount of research effort. In contrast to the cognitive and affective, this domain places primary emphasis upon a persons actual commerce with objects, information and people as they relate to a job, a task, or the world of work. Unfortunately, many students get their first exposure to the psychomotor domain only after they have

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[4]Gordon I. Swanson, "Education for the World of Work," Designing Education for the Future - No. 2, Edgar Morphet and Charles Ryan (Ed.) (New York, Citation Press, 1967), pages 98-114.

[5]S. J. Bloom (Ed.), Taxonomy of Educational Objectives: Handbook 1: Cognitive Domain (N. Y., David McKay Company, 1956).

[6]David Krathwohl (Ed.), Taxonomy of Educational Objectives: Handbook 11: Affective Domain (N. Y., David McKay Company, 1956).

demonstrated failure in the cognitive--affective domains. With the recent work on the psychomotor domain, we appear to be emerging into an era when we will be able to define behavioral objectives for both subject content and professional education within the psychomotor domain. In so doing, we may find a fringe benefit; we may discover some of the limitations or barriers introduced by an excessive reliance on the cognitive domain. We may also discover the gaps in our knowledge concerning the affective domain as well as the extent to which educators are bereft of knowledge concerning the relationship among the various domains.

A second approach, new to vocational education, and also included in the area of curriculum is an attempt to generate curricula to provide students with general capabilities suitable to the performance of a "family" or "cluster" or jobs. This is an emphasis on developing a structure or a theoretical frame for vocational curricula. With necessary variations, this approach is common to all vocational fields. Its further refinement will undoubtedly reveal elements of structure common to several vocational fields. The ultimate consequence will be the identification of skills and understandings which are common to groups of occupations and curricula which permit more versatility in training objectives.

This effort to identify general capabilities for "families" or "clusters" of jobs also has some fringe benefits. It adds to the current efforts to develop the perceptual-psychomotor domain of educational objectives and it helps to identify the elements of vocational education which might be usefully incorporated into general education.

A third approach involves the incorporation of an increasing amount of subject matter content into professional courses. Such courses were referred to earlier as "special content" courses. This trend is a direct response to need. As mentioned earlier, in university-level offerings in such fields as business, engineering and agriculture, the typical curriculum content and organization has had diminishing relevance to the problems of practice as encountered by teachers or by the world of work. In earlier historical periods, the degree of relevance was much higher, especially in Land Grant Institutions. A special amendment to the Morrill Act, the 1907 Nelson Amendment, provided funds and special provisions for "the training of teachers of agriculture and the mechanic arts." In the earlier periods of history this legislation appeared to have a more positive influence on vocational teacher-education. This legislation and its appropriations, though still received by all Land Grant Institutions, appear to have a declining relevance in the preparation of vocational teachers.

But there are other reasons for the recent growth of "special content" courses in teacher education. Occupational demands have introduced new skills and new performance requirements not ordinarily available to teachers unless it is incorporated into the content areas of curricula in teacher education. The introduction of this content into the professional curriculum is a measure of alertness to current problems in vocational teacher education. This is a recognition of the fact that a "major" for a person preparing to teach an academic subject. The vocational major is not ordinarily available in orderly course sequences in universities or in knowledge categories which are useful to prospective teachers. There is more and more need for special content courses which combine subject-matter with professional education for vocational teachers or there is need for this input to occur outside of the usual university curriculum.

A fourth approach to content acquisition for vocational teachers is in the area of in-service education. This is easily viewed in rapidly expanding vocational fields such as Distributive Education. Occasionally, in-service programs arise from new emphases or programs such as adult education. Some of the growth is in response to special teacher institutes sponsored with the assistance of federal and state grants or fellowships. There has been a great variety of stimuli for in-service teacher education. It is one of the most visible trends in vocational education. In-service education coupled with occupational experience appears to be on the way toward becoming a normative aspect of education.

A fifth development in vocational teacher education is only dimly visible but, nevertheless, an emergent trend and a challenge to the field. It is the development of a "foundations" component of vocational education. Vocational legislation in 1963 has generated a flow of research and a fund of knowledge with important vocational interpretations of the social and behavioral sciences. Special training programs and their evaluations have led to valuable information regarding the nature of vocational programs which are most useful, for example, to educational programs for the disadvantaged. In some teacher preparing institutions, the joining together of vocational special fields has helped to identify common curriculum components for unifying the field. The development of a "foundations component" for vocational education is a manifestation of concern for the special problems of practice in vocational education and it is a further manifestation of the "cluster" concept of occupations in the world of work.

NEW APPROACHES IN PROVIDING SUBJECT MATTER FOR VOCATIONAL BUSINESS AND OFFICE EDUCATION TEACHERS

F. Kendrick Bangs*

With the passage of the Vocational Education Act of 1963, business and office education for the first time was included with the other vocational areas of education for federal reimbursement. This does not mean that business and office education before that date had not been vocational in nature. In fact, business education has had a long and successful history of serving the vocational objective for young people's entrance into business occupations.

Those of us who have chosen business education as our profession are justly proud of our choice. Business education has had a long and enviable history. Through a period of non-support it established itself, and now through a half century in publicly supported schools it has justified its establishment.

During this period of justification, business education has developed dual objectives: one contributing to the learner's general education and meeting personal-social needs, the other vocational in nature and contributing to occupational efficiency.

We recognize that the realization of these two objectives is possible only through the use of two closely related but separate and distinct bodies of subject matter--one contributing to general education and the other contributing to vocational competency.

At this meeting we are particularly concerned with the second objective of business education, that of its contribution to vocational education. According to the 1960 census figures, about one-half of our total population is less than twenty-one years of age. These young people are our future business managers, secretaries, office workers at all levels.

Even today, with the expanding college enrollments, at least 80 percent of high school graduates do not go on to college. Of those who go on to college only about 8 percent study business. The majority of our high school graduates will need to enter the labor market immediately upon finishing high school. Any vocational training that will be helpful for them in getting jobs must be offered at the high school level. We have been training persons for initial office jobs in our high school without federal aid. We have done an adequate job of preparing the high school girl graduate for the clerical, stenographic, and secretarial jobs in business. But we have been woefully neglectful at the high school level in preparing the young man for his place in business. And for the most of these future businessmen, high school is the extent of their formal training! Much needs to be done by those of us in business education in this area. I am concerned about this; and I am hopeful that with the boost by the Vocational Education Act of 1963, we can improve our curricula and training for the young man, our future business leaders, at the secondary level.

As we think toward the vocational education of our young people we need to consider changes that will affect the future lifework of the youth of today. The complexity of occupational life, with its frequent changes, makes vocational education all the more difficult. Let us consider three specific changes. The first is the mobility of people. Today, everyone moves on the average of every three years. We have a very mobile population. An individual thinks nothing of quitting his job, moving his family across country, and seeking and settling in a new position. This

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kind of population results in a group of people with no particular home roots--a changing heritage.

The second change has been in the urbanization of our population. As more and more people become urbanized, there is more pressure upon the city governments to furnish more and more services; services that were once assumed by the individual in the less urbanized environment. For example, we need more fire and police protection, more schools, more roads, better sanitation, etc. This increases the need for office workers centralized in locations.

The third change has been in technology. The computer has brought a great change in our business and office work. In ten years, the computer evolved through three generations--the first, the tube; the second, the transistor; and the third, the hard state. So in 10 years we have moved ahead in computer development. And education, as we know, generally lags behind technological advancement by several years. This means that in our business and office education we are still lagging behind by several generations. To illustrate, in 1925, Charters and Whitley did a research project on analysis of secretarial duties and traits. It made a valuable contribution to the field of business education. I suspect it may have been Charters' and Whitley's hope that continued research would keep our field of business education in tune with the world in which we operate and with the business world for which we educate. Surely business has changed in those forty years--don't you suppose that curricula, training office secretaries should have also changed? But our curricula is still based on that study.

Three new approaches in providing subject matter for vocational business and office education teachers will be discussed. The first new approach concerns a research project now being conducted by Dr. Fred Cook of Wayne State University, funded by the U. S. Office of Education. The research project was the result of a Research Training Conference sponsored by the graduate professional fraternity in business education, Delta Pi Epsilon. The study is designed to up date the Charters and Whitley study. Charters' and Whitley's study made a job analysis by trait and characteristic count of the performance of some 800 secretaries. The approach in the current research project is to get at what is required of a secretary by studying the duties, responsibilities, and characteristics as they are perceived by three different groups--the secretary's peers, the immediate supervisors, and by the secretary personally. The results of this study will give us some valuable information on the curricular needs for training secretaries for the business office. The results of this study should be available for the profession in about another year. This will be one of the contributions brought about as a result of funds being made available for business and office education research through the Vocational Education Act of 1963.

Today as a result of the use of the computer in the office, we are told that the high school graduate will change jobs three times in his life--in fact, in the next 10 to 20 years over 60 percent of the current high school graduates will be in jobs that are not even known now. If we accept this prediction, we must realize that we cannot train for an initial job today in school and expect the graduate to stay with that job. We must develop an attitude of retraining, of continuation education.

The last census figures show that there has been a 16 percent increase in the growth of white collar workers (these are mostly office workers). The 16 percent increase is in sharp contrast to the 6 percent increase in the blue collar worker. We will have to train more and more for office occupations in the years ahead.

The introduction of the computer into the office has changed the complexion of office work. The computer necessitates the total systems approach to the office. All functions and activities of the office must be built into that total system. Isolated office jobs will no longer exist. Any person working in an office situation must understand the total system. He will be called upon to plan for and operate the machinery as it relates to the total system. He will be required to operate the periphery equipment of the computer. He will be moved up in the organizational structure of the office to make middle management decisions based upon the printout of the computer. We will have fewer office workers at the clerical level, but more office workers at the middle management level, making decisions based upon the mass of data made available by the computer.

This leads us to the second new approach in providing subject matter for vocational business and office education teachers. How do we educate for a computerized world? We have different kinds of curriculum throughout our educational systems today that have grown like Topsy. There has been no direction or study to give us what should be taught about computers or the best way to train teachers for teaching data processing. A study is being conducted currently by Dr. Mildred Hillestad and by me entitled, "Curricular Implications of Data Processing for Educational Institutions."

The report of this project will be available for curriculum construction the end of this year. (Explanation of the research project.)

A third new approach in providing subject matter for vocational business and office education teachers is a project now in the planning stages to do for business education as was done for math and science--a "new" business curriculum. Dr. Frank Lanham, Michigan University, is the principal investigator making plans for a project entitled, "'New' Office Education Learnings System (NOELS)." The first phase will be devoted to developing performance goals. Specification of the performance goals involves inter-disciplinary efforts from the fields of business and office education and the social sciences. After the goals have been determined, writing teams will develop materials; materials will be tried out for a year in pilot programs in schools and then revised; revised materials will be used in a large number of school systems and then revised; then hopefully the new curriculum and materials will be adopted by school systems throughout the country. In addition to the need for a new curriculum and new materials, there will be a great demand for different and better teacher training materials and programs in order to prepare teachers for the new programs and to up date those teachers currently in the field.--This is needed <u>now</u>, and we must move ahead as quickly as possible in this area of research into the needs.

These are three on-going research projects to bring us new approaches to business teacher education.

We have some problems in business education which disturb me a great deal for which we are not doing any research on a national level. Currently we have some concerns about the placement of business education in the total education pattern. As our vast amount of knowledge increases year by year, we need to find ways to teach more in less time. As a consequence, we see changes in the curriculum of math and science, particularly. The curriculum becomes more crowded, and more and more is being pushed from the secondary to the elementary level. Expansion takes place in the secondary curriculum to include greater depth in all areas. In contrast, there seems to be a trend toward pushing vocational business and office education from the secondary school to the post high school or junior college or community college level. More and more business and office education is being postponed to the post high school or technical school level. If we subscribe to the prediction and percentages of 80 percent not going past high school, this is a real problem for which we have to find a solution.

As this transition takes place, we need to know more about how to teach the needed skills and knowledges at these different levels--how to train teachers for the different age groups--so that the most can be accomplished in the minimum amount of time in preparing students for a productive, vocational life.

Another concern is, how important is vocational competence to the business and office education teacher? Our current teacher training programs are not devoting much attention to this need. We lack research in business and in education to determine how important vocational competence is to the business teacher. Is this obtained through work experience programs required in our teacher training programs? We should look at management training programs and see why they have proved successful. What can we take from those programs to enhance our business teacher training programs?

We have a great amount of research to do in order to bring our teacher training programs up to date so that they will be in tune with business.

Until the passage of the Vocational Education Act of 1963, there was no money available for research in teacher education for business and office education. The only research that was accomplished was at the doctoral level for doctoral theses. Dr. Herbert A. Tonne, past president of National Business Education Association, said in "Research the Researchable," page 25, of the April 1967 issue of BUSINESS EDUCATION FORUM:

> The transition to more meaningful and productive research will be accomplished only as we make better use of the instruments that are now available and have the skill to utilize them. This will require far more money and time than we have had in the past.

We do see that with the increased money through federal research grants, and interest on the part of our profession to take time for worthwhile research, teacher education in business and office education will improve. We have current research on training the drop-out for office work; programs for the hard-core areas of the large cities; data processing; duties of secretaries; and a "new" curriculum for business. Yes, business education is new in the reimbursable vocational programs, but with its long heritage in vocational education it is our desire to make rapid progress in advancing its teacher education through the current and planned research made possible by federal legislation.

RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION

Aleene A. Cross*

Most vocational educators at least give lip service to the procedure of planning curricula to meet selected pertinent objectives. In light of today's world of work, vocational educators may need to redefine objectives and revise curricula in vocational education. This would have enormous implications for teacher education. In truth, the curricula may already be changed and teacher educators be preparing teachers for these already existing programs.

This paper is intended to present a few ideas for needed major field content for the various vocational services. These will not be applicable to all occupational programs but it is hoped that no one idea will be immediately rejected. Instead it is hoped that each teacher educator will explore the feasibility of each idea for his program.

These ideas will be related to three types of skills. Each of these skills reflects a particular type of objective. An attempt will be made to suggest certain subject matter content or disciplines for each of these. The skills are: 1) cognitive skills, 2) manipulative skills, and 3) social skills. The third group includes, but is not limited to, affective objectives or skills. These are skills in interpersonal relationships, self-directiveness, and leadership.

Vocational education has traditionally had more of a technical or manipulative skill basis than any other. The trend now seems to be toward a combining of the cognitive with the manipulative and in many instances a decreased emphasis upon the technical with an increase upon scientific principles. For example, in Home Economics non-laboratory courses have replaced some skill courses, particularly in the core curriculum. These non-laboratory courses have utilized content from other disciplines such as anthropology, economics, art, and psychology. This content has been brought to focus upon textiles and clothing, or food, or housing. Odd as it may seem to some people such courses are as appropriate for distributive education, trade and industrial education, and even agricultural education as for the home economist. Another approach being increasingly used is adding courses in these disciplines to the subject matter content requirements. These may be general education in nature. If so, vocational teacher educators have an obligation to find ways to help students relate this content to the occupation for which they will be training people. Dr. Swanson emphasized this approach as one that is emerging in teacher education.

Vocational educators in some vocational services have long felt that the scientific principles should be the basis for major field content. Chemistry, biology, physics as well as the behavioral sciences are included in the college preparatory courses. This is not true of preparation for all vocational teachers. More emphasis has been placed in these instances on the technical skill of the teacher. The present challenge is to consider the need for in-service education in the basic sciences for those teachers selected because of their technical skill. There is always a reluctancy to illustrate too far from one's own field but a simple example is the baker in a food industry. A very skilled baker may be teaching young men his trade. He can teach them how to mix and manipulate the dough but cannot explain the scientific process of bread rising. The bread that is made may be delicious or may be heavy and with "sad streaks." The skilled baker, doing the teaching, has not helped the trainee to recognize when the bacteria or yeast is not functioning properly nor what to do about this. No doubt he would like to explain this process but lacks the needed cognitive skill. In-service education could provide this information for such teachers.

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A recent development in several subject matter fields, including vocational education, has been the identification of principles or generalizations. A national project in Home Economics sponsored by U. S. O. E. resulted in concepts and generalizations for high school programs. These are stated in such a way that teachers in both colleges and post-high school programs have been able to utilize them.

Another trend in the cognitive aspect has been the development of specialists. Perhaps this is the result of the Vocational Act of 1963 for some areas. The expansion of vocational education to include para-medical, agri-business, data processing, food service, child care service, and many others has demanded more specialists. The teachers of these students must have a depth of knowledge of this specialty. A generalist cannot develop in his students an understanding of the necessary principles in such specialized occupations. This has implication for both pre-service and in-service.

Need for major field content varies in direct proportion to the amount of cognition needed for understanding as well as performing a particular skill. The challenge to vocational teacher educators is to make an honest attempt to identify the underlying scientific principles of each occupation, and to provide ways for the teachers of this occupation to not only understand but also be able to teach these principles. This is vital if vocational education is to meet the needs of students in this era of expanding technology and knowledge.

Discussing cognitive skills first was not intended to ignore the need for subject-matter courses containing technical skill development. There is an old saying "that you cannot teach what you do not know any more than you can come back from where you have not been." There is still considerable truth in this statement. One current development is using skill development to more fully comprehend and generalize about a concept or a principle. In the past, vocational educators have emphasized technical skill development and the cognitive has been nil or negligable. The two now seem to be more happily married to each other--at least in more courses than in the past.

Another recent development is giving college credit for work experience. In some instances the work is prior to college enrollment. In others, it is a type of internship handled similar to student teaching. Those of us in vocational fields where work experience has not been mandatory could well use this procedure for skill development. Non-credit courses have been used in some schools of home economics and in business education to help students develop technical skills which many students already have. For example, prospective teachers of typing who have not had typing in high school. Both of these ideas have potentiality for the training of all vocational teachers.

The social or affective skills have been deliberatley left until last. This is the area where vocational education seem to have most nearly missed the boat. Some prospective teachers have psychology and sociology included in their preparation. Others do not have any of the behavioral sciences. Those who have such courses have used these to help teachers better understand their students and the society in which they live. Why not use these as subject matter and encourage teachers to include these in their own teaching? Vocational students need to understand themselves, the culture in which they live, and the world of work for which their students are preparing.

More and more jobs are shifting to service occupations and away from the factory. Not only is the content of occupations changing but the whole culture is becoming people-oriented. Ineffective relationships with employer and fellow employees is more often the cause of losing a job than ineffective performance. Courses in group dynamics and interpersonal relations are becoming essential in occupational preparation as well as in the preparation of vocational teachers. These may be found in psychology, management, education, or home economics. Where does not matter so long as the course helps a teacher understand how people interact. The socialization process, human behavior, personality, and character development also have a place in our preparation programs. Making choices based on personal values is already an essential in the life of every person. Teachers and teacher educators are yet to realize the effect this process has upon the success of an employee or an employer.

In summary, the writer would like to challenge each teacher educator to evaluate the major content requirements in his teacher preparation program in light of:

1. The changing world of work.
2. The underlying scientific principles of needed technical skills.
3. The socialization process.

4. The culture and sub-cultures existing in present day society.

Perhaps this evaluation can be a cooperative process by all the vocational teacher educators in a department or state. This could result in identifying the commonalities existing in vocational education. Certainly it could provide more realistic offerings in both professional education and in major content areas.

VOCATIONAL SERVICE AREA GROUPS: SESSION II

RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION: AREAS OF IMPLICATION

AGRICULTURAL EDUCATION
BUSINESS & OFFICE EDUCATION
DISTRIBUTIVE EDUCATION
HOME ECONOMICS EDUCATION
TECHNICAL EDUCATION
TRADE & INDUSTRIAL EDUCATION

PROVIDING MAJOR FIELD CONTENT EDUCATION IN AGRICULTURAL EDUCATION

Lowery H. Davis*

Just what is meant by the term "major field content?" To me it means, in our case, the formal courses in technical agriculture taken by majors in agricultural education or as it has sometimes been called "specialized education in agriculture." Usually we think a baccalaureate program in agricultural education consists of three areas--general education, professional education, and specialized education in agriculture. It is extremely difficult, if not impossible, to neatly classify the formal and informal experiences into these categories. Indeed general education has a direct bearing upon the understanding of the technical education phase and the professional education is part and parcel of the former. I trust the planning committee for this seminar made the divisions we see here for convenience.

This topic is fraught with problems and questions. Some of the problems are not solvable and some of the questions are unanswerable. For example, for whom are we providing these field content experiences; what are the competencies needed by these individuals; at what point in their career should the experiences be provided; who should make the decisions as to what these experiences will be, etc.? We have never gotten agreement among ourselves, even in the "old days," as to what an agriculture teacher should be and what he should do. Is he an agriculturist or an educator? Is he a teacher or an active change agent? Should he be all things to all people as we have tried to make him in the past? A manufacturer can tell you the specifications of his product and what you can expect it to do. Not so in agricultural education and perhaps that is as it should be. However, I do believe we should be able to get some agreement as to what is expected of a teacher of agriculture.

There was a time when our broad, general education in agriculture served us well. I'm afraid that the rapid technological advances in agriculture and the changes made in recent years in our vocational agriculture program have made our present teacher education programs obsolete. I believe that even for the teacher of production agriculture, we need fewer of the traditional introductory courses and more courses dealing with the principles of plant and animal sciences in the pre-service curriculum.

We are quite proud of the fact that graduates in agricultural education do well in other pursuits; are and have been sought after in jobs other than teaching. However, we cannot and must not desert our original purpose of teacher education in agriculture. While we should continue our primary purpose, we are late in making the necessary adjustments. Can we agree that our basic purpose is to educate teachers of agriculture either in a production agriculture or other agricultural occupations in a secondary or post-secondary situation. There are certain basic courses, in my opinion, which teachers should have regardless of the area in which they will be working. I do not believe every student in agricultural education should necessarily have the same educational program. The argument that we do not know what the student will do upon graduation (and if he teaches, we do not know where nor what) does not hold. The student has already made a number of decisions, among them to major in agricultural education. I think a decision by the time he is a sophomore as to the area of specialization within the curriculum is realistic. Further, the decision would not be an irrevocable one.

Certain courses would serve as the core program in technical agriculture for all students. These courses, consisting of approximately thirty semester hours, would be: botany, zoology (or biology), general bacteriology, genetics, introductory courses to the plant and animal sciences, agricultural mechanization, soil and water

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conservation, farm and business management, agricultural policy, etc. The student would choose an area of concentration in one of several areas. The following might be examples: production agriculture, horticulture, forestry, and agricultural mechanization. You will note the term sales and services is conspicuous by its absence. The sales and service aspects would be taken care of with business and management courses.

No serious problems of scheduling should result as many of the courses would be required in two or more of the areas of concentration. The university catalog would not necessarily be cluttered nor would the diploma have to be changed. The teaching certificate would show the area of speciality in addition to the usual information.

A second alternative would be a minor, which many universities already have in effect. The limitation here would be the difficulty of broadening the student's program. However, if the core program with areas of concentration were not feasible a certain number of hours could be required in the subject matter department or departments and the remainder of the interdisciplinary courses could become departmental requirements.

A third alternative and one which could give us some relief would be to allow students in subject-matter departments to minor in agricultural education. This, in effect, has been done for fifty years. In the beginning, it was done because teachers of agriculture were non-existent since it was a new program. It has been done on a limited basis since but primarily by accident and happenstance. Some of our outstanding teachers are majors in subject-matter departments and met certification requirements through additional work. Our experience in taking older men--those who have been in business and industry for a period of time--bringing them in for their professional education has been disappointing. On the other hand, we have had excellent experience in following this procedure with young men who have just graduated with a bachelor of science degree. The difficulty here is that it is too little, too late. A young man suddenly wants to teach but he has invested four or more years of his life and several thousands of dollars and cannot see his way clear for one or two additional semesters. So we lose him. I believe that if students in the subject-matter curricula such as horticulture, agronomy, animal science, agricultural mechanization and business, etc., knew as entering freshmen it was possible to meet certification requirements during the four years with little or no additional course work that we would be able to employ some of these persons. What better combination of subject matter and professional education could we have in some of our specialized areas.

Thus far I have spoken of the undergraduate program. Another possibility for providing subject-matter content to teachers is for a person to complete his bachelor of science degree in agricultural education and take a masters program in a subject matter such as horticulture with a minor in agricultural education. We have encouraged this in recent years. I must confess our results have been discouraging since all the men to date have either gone to another institution for the PhD or have gone into service.

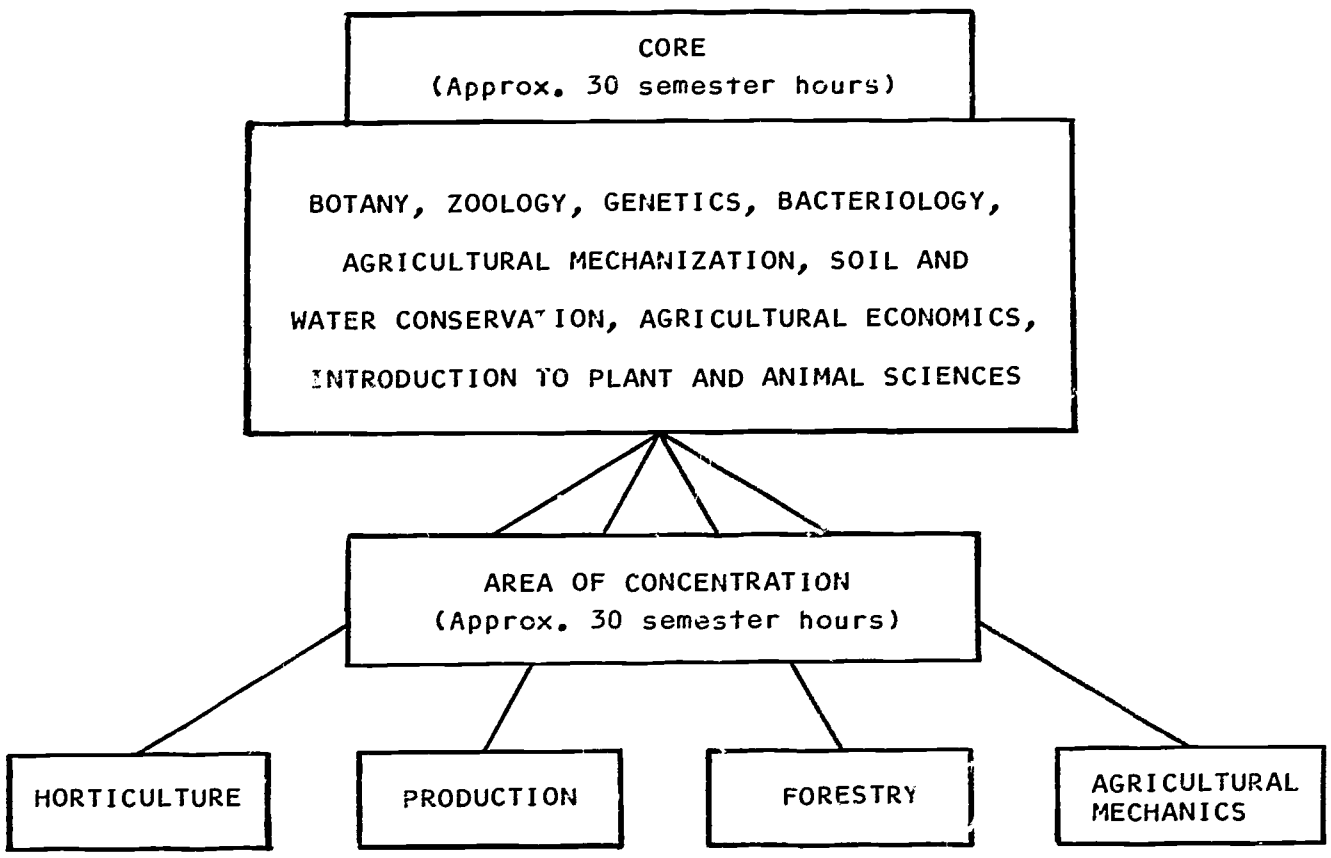
It seems to me one of our greatest and most pressing needs is in the area of in-service education. For the most part our teachers in service are products of the "production" curriculum with a supervised farming program orientation. Occasionally you will find one with a personal interest in a specialized field who can do an adequate job or one who has the initiative, imagination and perseverance to learn on his own. Many teachers find it impossible to be admitted to our present day graduate schools. Some of the older teachers simply cannot gain admission to a degree program if they had the interest. Many of these, of course, can and do receive masters degrees. Others can enroll in courses not leading to a degree which should benefit them. However, many of these courses are taught from an impractical standpoint and do little toward helping a teacher overcome deficiencies in a specialized area. Workshops of longer duration than three days are a necessity. This is the place for cooperative planning between teachers, supervisors, teacher educators, specialists at the university as well as those in business and industry. Incidentally, I believe team teaching can be real effective in these situations. State departments of education simply must find some way to give released time and monetary support to teachers for these workshops or short courses and universities must find ways to release professors who have the time, talent, and desire to render this service. Neither should we overlook the possibilities of professional persons from business and industry and from public agencies not connected with universities.

Another possibility and one which has been used for some time is the use of technicians to assist the teacher. I am not ready to concede that teacher education is not effective and to be an effective teacher, all we need is the knowledge of the subject matter. Let a person on a full time or part time basis assist the teacher in complete courses or in specialized areas as the need arises.

It seems to me, with the combination of all of the factors exerting pressures today, it behooves all of us to give the very best educational program possible (pre-service and in-service) to those people most responsible for the success or failure of a program--the teachers.

Among others there are problems of mechanics, philosophy, attitude and financing. However, I'm convinced that state departments of education and the universities (the major agencies involved) realize the urgency, are mature enough and interested enough to get on with the job.

SCHEMA FOR PROVIDING MAJOR FIELD CONTENT IN AGRICULTURAL EDUCATION



HORTICULTURE

LANDSCAPING

FLORICULTURE

PROPAGATION

NURSERY

TURF

ENTOMOLOGY

PLANT PATHOLOGY

SOILS & FERTILIZERS

ACCOUNTING, ADVERTISING

MARKETING

PRODUCTION

FIELD & FORAGE CROPS

ANIMAL, DAIRY & POULTRY SCIENCE

ENTOMOLOGY

PLANT PATHOLOGY

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FARM MANAGEMENT

FORESTRY

DENDROLOGY

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FOREST ECONOMICS

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AGRICULTURAL CHEMICALS

AGRICULTURAL MECHANICS

EQUIPMENT FABRICATION

FARM POWER

FARM UTILITIES

STRUCTURES

EQUIPMENT SALES & SERVICES

ENGINEERING GRAPHICS

SOILS & FERTILIZERS

ACCOUNTING

ADVERTISING

PRICES

MARKETING

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Cecil H. Johnson, Jr.*

The advent of off-farm agricultural occupations courses in the vocational agricultural education program has caused considerable concern on the part of teacher educators as to the most effective and efficient method of providing future teachers of these subjects with the major field content required to teach these programs. Some educational institutions have attempted to alleviate this problem by adding a fifth year to the traditional program in order to include more technical subject matter in the undergraduate curriculum.

However, the possibility of restructuring introductory courses in plant and animal science toward meeting the needs of future teachers should be investigated. Joint appointments of professors between agricultural education and technical agriculture subjects should be considered as a solution to the problem of relating major field content to teaching vocational agriculture. In the certification of teachers for off-farm agricultural occupations, consideration should be given to qualifying teacher certificates with data on area of specialization.

The implications of the establishment of general colleges to when and how much technical agriculture can be included in teacher education programs should be investigated. In addition, studies need to be undertaken to determine whether or not young graduates with degrees in a major content field who take courses for certification are more successful than older persons with occupational experience who have returned for the necessary education courses to meet certification standards.

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NEW APPROACHES IN PROVIDING MAJOR FIELD CONTENT FOR VOCATIONAL BUSINESS AND OFFICE TEACHERS

Calfrey C. Calhoun*

INTRODUCTION

As we tackle the problems of training teachers of business and office occupations, I am reminded of an oak tree analogy. There are several ways to reach the top of an oak tree--you can cut it down and thereby destroy many, many years of good growth, or you can sit on an acorn--but that is too slow. And you can take the hardest and best alternative and climb your way to the top. As caught up in the forces of change as we are, we can't abandon the good things we already know and the good things we are already doing. We haven't the time to sit on an acorn, so perhaps at this conference we can start climbing in the direction of getting on top of our problems in providing quality experiences for teaching business and office occupations.

As I approached the development of this paper, the heart of the topic seemed to group itself into about six areas as pivotal concerns in any new approach toward providing major field content for business and office teachers: 1) The Changing Role of the Teacher, 2) Changing Characteristics of our Student Population, 3) Curriculum Innovations, 4) Innovative Media/Method as Applied to the Major Field Content (technical business education--the so-called skills courses, and the business core or related courses), 5) Research and Development, and 6) Some Emerging Curriculum Patterns and Trends in Business and Office Education. I would like to take some time to discuss briefly the New Office Education Learning Systems Project as a promising new development in the field.

THE TEACHER

Dr. James Conant[1] has had much to say about the process of preparing teachers. He maintains that the best preparation of teachers is an open empirical question, and that "Professors of education have not yet discovered or agreed upon a common body of knowledge that they all feel should be held by school teachers before the teacher takes his first full-time job." Since, as a professor of education, I am a target of his remarks, I trust you will forgive me if I do not have all the answers.

It has been said that nothing is more deadly than the 2 x 4 teacher; that is, one who is bound by the two covers of a book and the four walls of a classroom.

Certainly a revolution is taking place in teaching. The image of the teacher, once conceived as simply an individual in a box-like classroom with thirty students engaged in the process of lecture, discussion, or practice work--in other words, the 2 x 4 teacher--is quite different today, and will continue to change, of necessity, to keep pace with the rest of society.

If I were to ask you, "What is your job?," what would you answer? You would probably say that you teach accounting, shorthand, economics, typewriting or any of the other business education subjects. However, the real job of the teacher at any level or in any field is to teach the student to educate himself. All of us are simply trying to teach students how to study, how to learn, how to educate themselves. A math teacher uses the symbolic language of mathematics to make his point. A bookkeeping teacher uses the language of accounting. But we are teaching the same thing.

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[1]James B. Conant, The Education of American Teachers, New York: McGraw-Hill Book Company, Inc., 1963, p. 141.

We in business and office education should be particularly aware of the importance of teaching the student to educate himself as we consider the rapid changes taking place in the office occupations.

Ryans[2], in the Journal of Experimental Education, reminds us that we as teachers will find ourselves becoming less of an information presenter and more of an organizer of the instructional process. This, of course, fits easily into the information system theory of instruction about which we are hearing so much these days. We can expect heavier demands placed upon us as we become, not just a teacher, but a scholar, programmer and controller both of the information to be communicated and of the channels of communication. In our classroom and/or in individual learning situations we will find ourselves as integrators and organizers of all the functions described as "teaching behaviors"--motivating, presenting, organizing, evaluating, and counseling, whether we actually perform the function or whether it is done by some other medium or set of media.

THE STUDENT

Since our teaching methods, materials and media are determined, in no small measure, by the student, let's take a brief look at the changing characteristics of our student population. First, we do not need to be reminded of the increase in number of students enrolled in higher education. The number has increased more rapidly than the population as a whole during the twentieth century, and this trend seems likely to continue.

Along with growth in numbers and diversification of student backgrounds there are other changes that are important to the teacher educator:

1. The improvement of education before college. In the most selective private colleges, the best students are found to be better prepared, more academically alert and more ready for college, so that major elements of the college curriculum can be moved from sophomore to freshman level.

   While we have many such students in the public colleges, we also enroll able youth from homes in which education and intellectual activity have been negligible values. The learning difficulties of these students stem more from cultural deprivation and uncertain motivations than from educational reasons. Their preparation for college entrance has been in school alone. Not only are we getting more students in school, but we are getting students with a wider range of background experiences.

2. Increased number of married students in school.

3. Increased average age of undergraduate student.

4. Increased proportion of women enrolled.

5. Increased number of students returning for reeducation.

A short time ago, a General Electric plant manager found that, without retraining, a third of his $700 a month skilled workers would have to be replaced in ten years because of obsolescent skills.

As for white collar workers, a Westinghouse engineer recently calculated that a graduate engineer has a half-life of about ten years. Half of what he now knows will be obsolete in ten years. Half of what he will need to know ten years hence is not available today.

The increasing numbers and changing character of students in today's colleges and universities clearly reveal a need to reconsider ways of teaching. In a few years we will find that the college as we know it today actually has no proper place in the scheme of things. The secondary schools will have added a year or two to their present curriculum and graduate schools will be kidnapping all the college juniors and seniors into their own departments.

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[2]David G. Ryans, "A Theory of Instruction with Special Reference to the Teacher: An Information Systems Approach," Journal of Experimental Education, (Winter 1963), pp. 191-223.

CURRICULUM INNOVATIONS

Certainly one of the more innovative programs that we want to look at is Oakland Community College, in Oakland County, Michigan, which is perhaps the only totally operational college in the country currently using the instructional systems approach to learning.

Roland Anderson[3] has given an explanation of the operational setup of the college in the February 1967 Business Education World. He reminds us that "the instructional systems approach is typically a learner-centered method of teaching. The student is given an objective, known as the terminal performance specification, and a unit is designed to meet this goal. The objective is terminal in the sense that, on reaching each learning plateau, the student must pass a criterion performance test measuring attainments. All terminal performance specifications (determination of what is to be learned in the course) are established in advance by the coordinator. The coordinator and other staff members formulate the objectives into a behavioral approach. Various techniques--programmed instruction, films, tapes, etc.--help to attain course objectives.

Basically the system is simply a collection of various component elements which, when organized and channeled to accomplish a common purpose, become a powerful tool for education.

Each learning plateau is designed so that the student with average ability should achieve it in one or two weeks. The criterion tests, which will indicate attainment level, may be oral, written or performance.

Specific requirements and level of achievement is spelled out for the student at the beginning of each unit. This is not always an easy task for the faculty members to agree in advance on performance specification and criterion performance test questions; this is vital, however, to the student's effective performance.

It might be said that such teacher cooperation alone would increase teaching efficiency with or without systems approach, simply as a result of forcing teachers to plan well in advance.

Formal classes, as we know them, are excluded at Oakland Community College, being replaced by three types of learning sessions: general assemblies, small assemblies, and independent study.

General assembly session is usually once a week for all students of a section. Emphasis is primarily on motivation--through speakers, guest lecturers, demonstrations, discussions, panels, full-length films, etc.

Small assembly, averaging five to fifteen students, is basically designed to aid each student in reviewing previous lessons, previewing forthcoming units and discussing current subject matter.

The independent laboratory study is voluntary for the student. The lab, in which a tutor is available at all times, is open from 8 a.m. to 10 p.m., Monday through Friday. While the tutor offers as much assistance as is sought by the student, ideally the construction of the learning steps within the program should be such that the student will have little difficulty in learning the unit content.

Study carrels are equipped with electrical outlets for as many audiovisual aids as the learner needs. Most of the courses include taped lectures that may be replayed as often as necessary.

The college has several technicians whose sole responsibility is to aid the faculty in the development of single-concept films, slides, tapes, transparencies, charts, etc.

Several advantages of this system are obvious:

1. First and foremost is the potential for the student to achieve maximally through the individualized approach.

2. The student has more meaningful contact with the instructor who may tailor his teaching activities to individual needs.

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[3]Roland Anderson, "Let's Look at the Instructional Systems Approach," Business Education World, Vol. 47, No. 6, (February 1967), pp. 19-20, 44-45.

3. The student can participate in decisions on readiness for testing.

4. The student has full control over his rate of study.

5. When the student encounters a problem, he can obtain needed assistance immediately.

6. Students gain a feeling of independence and develop a sense of responsibility for learning.

7. The learning situation is free from the deadline of pressures (time--quarters or semesters).

8. Benefits accrue from bringing together all available teaching aids in a flexible lab environment.

I personally feel that this personalized approach is definitely the trend for education at the college level, but it is apparent that such practices will not be accomplished overnight. Such basic changes as those practiced at Oakland take time and money. This is no reason, however, for us to continue to teach the same material year after year in the same fashion. Certainly many changes can and are being made each year in the manner in which we plan and present our instruction.

All of us have either used or are familiar with programs using one or more of the media mentioned as a part of the Oakland College Instructional System. For example, television, programmed material, and electronic labs are widely used in teaching business and office education courses. Much of what is missing in our teaching field lies in the absence of a unifying system which would utilize, to the benefit of each student, the wide variety of teaching media and materials already available.

METHODOLOGY IN BUSINESS-OFFICE EDUCATION

At this point I would like to review briefly a few of the more recent studies possessing implications for the field. Russell Johnston[4] recently surveyed colleges and universities as to the relative effectiveness of some of the more promising media and methods that have shown a significant degree of increased use in the past few years. The media selected for study were team teaching, student grouping, teacher assistants, programmed instruction, television, multiple-channel listening equipment, and business simulation games.

Team Teaching

Attitudes toward the practice, as held by administrators, faculty and students are very good, although students are less enthusiastic than are teachers and administrators. Significant advantages are that it helps to use to better advantage instructor competencies and improves the quality of instruction. Significant disadvantages are that team members tend to disagree with each other, there are difficulties in adjusting schedules of team members and students to the team plan, and some instructors are unwilling to cooperate.

Davis[5] points out that many high schools, and especially colleges and universities, are ignoring this challenging and important method of teaching. Team teaching stresses flexibility and has many advantages in improving teaching and learning experiences alike. However, not one university out of 50 employs this method. Team teaching utilizes different size groups. Students learn in three ways: 1) from the teacher, 2) alone, and 3) from each other. Sometimes they learn more from each other. Sometimes they do not learn what we want them to learn. Large discussion groups are appropriate for large lectures--millions can watch television or thousands can hear a speaker in a room. Small discussion groups also have a part in team teaching when the large lecture groups break up and move into different areas for round-table discussions, individual and small group instruction, and help. Independent study is also valuable and many new methods are being innovated where students are blocked in carrels for study and concentration, away from their neighbors. Team teaching must make use of the teaching-learning process.

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[4]Russell Johnston, "Selected Instructional Practices in Collegiate Schools of Business and Their Use in a Proposed Systems Approach," Unpublished doctoral dissertation, Lexington, University of Kentucky, 1967.

[5]Harold Davis, "Training Teachers for the 21st Century," Office and Business Education Teacher Training Clinics, Project OE 6-1522-1-32, Wayne State University, 1966, p. 5.

Student Grouping

Several forms of student grouping were reported by Johnston, and more than half of the schools combine large and small-group instruction. Attitudes as held by administrators, faculty and students toward student grouping are generally good but not as favorable as those toward team teaching. Significant advantages of the practice are that it helps to utilize better instructor competencies, improves the quality of instruction, and decreases the cost of instruction.

The only significant problem related to grouping is the lack of adequate physical facilities.

There is substantial agreement that the future is very bright for the use of large-group instruction complemented by small discussion groups.

Teacher Assistants

Students perform virtually every professional function that full-time instructional personnel are expected to perform, and tend to do so well. Their place in the instructional program is firmly established and the only significant problem related to their use is the lack of qualified applicants for established positions.

There is substantial agreement that the use of assistants helps to utilize better instructor competencies, improves the quality of instruction, and is less costly than conventional methods.

There is substantial disagreement as to their appropriate roles. Many feel that students will perform proportionately more nonprofessional functions than is now the case, while others feel that a continuing shortage of full-time instructors will result in assistants performing more professional teaching functions.

Programmed Instruction

Attitudes held by administrators, faculty and students are generally good with respect to the efficacy of this method of instruction. The only significant problem related to the use is the lack of suitable material. Instruction results in improvements in the quality of teaching and helps to utilize better instructor competencies.

The majority of those questioned by Johnston felt that future use depends largely upon the materials that may or may not be developed.

Television

Johnston found that the use of closed-circuit television far exceeds the use of broadcast television by college business teachers. Significant advantages are that it helps to utilize better instructor competencies and improves the quality of instruction.

Attitudes toward the use of television are more negative than for other practices reviewed by Johnston. Principal advantage cited by the teacher is that it gives him opportunity to develop better lectures than before. TV is believed to make possible a new logistics of teaching, which, by increasing the output per man hour, provides the means for creating a better product. Given time to concentrate on one course, television professors have reorganized their traditional ways of teaching in translating their material into the new medium. The new course is tighter, more rigorous, more condensed; yet it covers more subject matter in less time. TV permits the instructor to do certain things in his lecture which he could never do before, at least not as well--presenting close-ups, bringing to the classroom great events in live or recorded form, interviewing important figures, making eye contact with every viewer, employing a range of animated and graphic technique, and so on.

Attitudes toward the experimental groups, both TV and large classes, were generally negative. Students prefer small classes unless the instructor and his presentation is exceptionally outstanding. TV instruction appears to be somewhat more acceptable to the low ability than to high ability students in courses where visual content comprises a large part of the presentation. Faculty reaction to the performance of experimental groups was that television teaching was superior to other methods of large-group instruction but they prefer conventional classes.[6]

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[6]James W. Brown and James W. Thornton, New Media in Higher Education, Washington, D. C.: Association for Higher Education and Division of Audiovisual Instructional Services, 1963, pp. 38-39.

Multiple-Channel Listening Equipment

This equipment is now rather widely used in shorthand instruction. There is substantial agreement that the practice helps to utilize better teacher competencies and improves the quality of instruction. Attitudes toward use is good; students and teachers favor its use over conventional methods. There is agreement that use of such equipment will expand and extend to other courses in the curriculum, such as typing, office machines, etc. In many technical schools and colleges, shorthand students are now required to use the lab two or more hours per week in addition to time spent in class. Students choose materials for their own rate. Frequently the lab is used jointly by business and office educators with other departments.

Business Simulation Games

Games are used primarily as a part of the regular class work and lesser as auxiliary exercises. An overwhelming majority of schools use the computerized form. In no other practice studied are attitudes of administrators, faculty and students more positive than those toward business games. While its use in business core courses is well know, simulation is also appropriate for teacher education purposes.

Simulation may be defined as the creation and use of realistic games to be played by participants in order to provide them with lifelike problem-solving experiences related to their present or future work.[7] Such game situations require each player to make decisions based upon previous training and available information. After the player encounters an incident and makes a subsequent decision, he is provided with opportunities to see and/or discuss one or more possible consequences that may result.

Simulation games may be applied to the teacher education program as follows.

Each participant assumes the role of Jane Harvey who has just been employed as a business teacher at the high school in the town of Jefferson. She is introduced to the town and its school system via a filmstrip narrated by Dr. Raymond Block, superintendent of schools. Immediately thereafter, in another filmstrip, Frank Jones, the high school principal, provides Jane with detailed information covering the community, school, faculty and program. At the conclusion of the orientation session, she is given materials normally provided for a new staff member, including a faculty handbook of rules and regulations, a curriculum handbook, an audiovisual catalog, and cumulative record cards for 38 students. From this time on each participant, in effect, becomes Jane Harvey, the new business teacher at Jefferson High School.

The game begins as Jane encounters Jack Barker, a constantly disruptive student in a filmed classroom incident. In all, Jane encounters 30 incidents, all representative of problems identified by teachers in service. Problems vary from "having a distaste for grading papers" to "getting parents to take an interest in their children's behavior." Some of the incidents are filmed while others are encountered in role playing or written incidents.

There are no "correct" answers in this simulated experience. Rather, each participant is encouraged to employ a sequence of information processing. After each incident, Jane Harvey reacts on a written "Incident Response Sheet" where the problem is identified, sources of information used in decision-making are noted, and a decision made. At this point participants as a group discuss the incident, their hypotheses, and projected consequences. Every effort is made to encourage "openness" and reflective thought.

Aside from the realism which simulation provides, there is some evident to suggest that the technique increases participants' confidence in their ability to teach. Participants consider it stimulating and motivating, and it allows them to encounter teaching problems and to engage in problem-solving activities which may reduce the intensity or number of problems they will face as first-year teachers. It adds to the new technology available for improving the pre-service and in-service preparation of teachers in any area of subject matter, including the teaching field. Classroom simulation appears to offer an unusual opportunity for the integration of theory and practice.

On the basis of Johnston's study, it appears that while substantial use is being made of selected instructional practices such as we have been discussing, little attention has been given to their function as components in an instructional system.

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[7]Donald R. Cruickshank, "Simulation, New Direction in Teacher Preparation," Phi-Delta Kappan, Vol. XIVIII, No. 1, (September 1966), pp. 23-24.

In the area of new media being used, I should like to recommend a NEA publication edited by Brown and Thornton entitled, New Media for Higher Education. It reports a survey of the present nature of uses now being made of new media by colleges and universities throughout the nation. Reports and findings on 90 outstanding undertakings from over 40 colleges and universities are included. There are implications for use of many of these techniques--remedial units of instruction, taped lectures, transparencies, single loop and single concept films--for our own field.

RESEARCH AND DEVELOPMENT

In the past few years, Stanford University has come up with some promising work in the area of teacher education and technology. The program is centered around a fifth-year internship that trains liberal arts graduates for secondary school teaching. The candidates have teaching responsibilities in public high schools at the same time they are taking academic and education courses. Looked at from one point of view, the internship program has been a laboratory to try out new ideas and processes in the training of teachers.

Two major ideas have emerged from the work at Stanford. First, there is an attempt to analyze the teaching act into component skills, and then to train the beginning teacher in these skills. Second, besides the traditional methods of classroom instruction and supervision, the latest in technology is used to help the beginners acquire teaching skills. There are several applications of the new technologies to teacher training that seem promising.

Micro-Teaching[8]

Micro-teaching is a process that is aided by technology. It is a scaled-down teaching experience in which a beginner practices various teaching skills with a few students for a very short period of time. His teaching is videotaped and gone over with his college supervisor or cooperating teacher. The combination of a highly controlled teaching environment and the opportunity to examine the beginner's performance immediately has proved to be a forceful means of stimulating behavior changes.

Thirty-five mm. cameras, armed with a timing device, can give the teacher and the researcher a pictorial record of what occurred at regular intervals during a class period. Portable videotape recorders are used by university personnel to record what actually happens in the classroom of its beginning teachers. Not only does this method of observation have great research potential, but it has added a valuable dimension to supervision. A supervisor and teacher share a common frame of reference when they view a tape recording. Further, the recording can be looked at over and over. Tape recorders have become so portable that they can be brought into a classroom and set up between passing bells. Sixteen mm. situation alternatives are films of teachers that demonstrate teaching problems. They are used to show trainees the various ways in which they can respond to teaching situations. The attempt here is to show them a problem and have them develop alternative solutions. Computers have been employed to process data from beginning teachers, from their students and from their supervisors. These data are used as feedback on the effectiveness of the program. In a number of high schools in the western states, flexible scheduling has been made possible through the use of computers under the supervision of Stanford University. In these schools, the school schedules are divided into modules so that the amount of time available for students to participate in large-group sessions, small-group work, and individual activities may vary depending upon the specifically identified behavioral goals to be attained and their level of attainment.

Much research is needed to make the best use of the innovative ideas and resources available for curriculum organization and scheduling, particularly in relation to the following:

1. The identification of specific performance goals to be attained at certain levels of growth and when ready for employment, further education, and marriage.
2. Valid, reliable and easily administered evaluation measures for each, or clusters of behavioral goals identified.
3. New approaches for reaching the non-motivated student.

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[8]Kevin Ryan, "Innovations in Teacher Education," Office and Business Education Teacher Training Clinics, Project OE 6-1522-1-32, Wayne State University, pp. 8-9.

4. Maximum use of teacher talents and time, team teaching, the role of the teacher.

5. Basic comparisons and analyses of the mertis of innovations in curriculum organization and the more traditional patterns.

Michigan Research Coordinating Unit

The principal objective of an interesting piece of research by the Michigan RCU was to identify a communication network, if one existed, in order to develop a systematic approach to the spread of educational innovations in vocational education. Schools were asked to indicate what new things they were doing, what they considered from a pre-structured list to be new practices in their area, and when they started using them. Lists of schools were then made for each practice by year of adoption. From these lists some schools were identifed as "early adopters" by reason of being among the first to use such practices in their programs. It was felt that schools which appeared on these lists might fit the classification of "innovative" schools.

Five practices were surveyed in the field of business education;[9] 1) Aduio-Laboratory for Shorthand and Typing skills training; 2) Overhead Projector with Transparencies; 3) Motorized Visual Aids--Skill Builders, such as the EDL series; 4) Teaching Concepts in Data Processing; and 5) Model Office. Of these five, the overhead projector with transparencies was found to be the only practice widely adopted.

A finding that may be even more significant as far as Office Education practices are concerned dealt with the source of influences involved in adopting the practices surveyed. It was found that the most significant sources of influence were conferences, meetings, and journals.

Business Machines

A study of data from a federally funded study of "business Education Curriculum Implications of the Effects of Technology on the Types of Office Machines Used by Selected Connecticut Businesses,"[10] reveals the following contemplated changes in the types of office machines now in use;

1. Bookkeeping and Accounting Machines. The great majority of businesses using bookkeeping and accounting machines indicated no contemplated discontinuance of their use at the present time. A small number of firms indicated plans to use the services of a data processing service bureau.

2. Unit Record Installations. Only 9 percent of the firms using unit record equipment contemplated replacing these machines by a computer or a data processing service bureau.

3. Key-Driven Calculators. Thirty-four (10 percent) of the three hundred thirty-eight firms using key-driven calculators indicated the contemplated discontinuance of their use. This change would affect 65 percent of the total key-driven calculator operators. The printing calculator was designated as the replacement for the key-driven calculator.

4. Rotary Calculators. A total of 15 percent of the firms using rotary calculators contemplate the discontinuance of this type of office machine. The printing calculator was indicated as the type machine to replace the rotary calculator.

5. Office Duplicators--Offset Process Printing. A total of 7 percent of the 931 firms using office duplicating equipment plan to change from the stencil process to the use of on-premise offset process duplication.

Bookkeeping and Accounting

Bachman and Patten,[11] in a survey of trends in elementary accounting instruction in two- and four-year colleges of business, found that:

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[9]Research Coordinating Unit, Michigan State Department of Education, "Innovation in the Diffusion Process," 1966.

[10]Cletus A. Clow, "Business Education Curriculum Implications of the Effects of Technology on the Types of Office Machines Used by Selected Connecticut Businesses," Subcontract of Contract OE-5-85-121, U. S. Office of Education, p. 5.

[11]Joseph W. Bachman and Ronald J. Patten, "Trends in the Elementary Accounting Course," Collegiate News and Views, Vol. XX, No. 3, (March 1967), p. 11.

1. A strong trend is developing toward the integration of more management accounting into elementary accounting instruction. A majority of the schools surveyed indicated more emphasis on uses of data as opposed to its accumulation.

2. TV is being used increasingly as an instructional medium.

3. There is an increasing use of programmed instruction as a supplementary teaching tool.

4. Business games are being used to a greater extent as supplementary teaching tools.

5. Most schools require the equivalent of six semester hours of instruction in elementary accounting.

6. Most schools teach the elementary accouting course mainly to sophomores.

7. A slight movement is developing away from labs as a method of instruction. By the same token, there is a slight movement toward the use of lecture sections of seventy or more students.

Shorthand

In a research study funded by the United States Office of Education, Patsy McMurtrie[12] developed a one-semester stenography course. She prepared a Shorthand-Structured-Learning Program which includes a textbook, teaching-learning tapes correlated with each lesson in the text, four instructional films, charts and transparencies. (Participants enrolled included twelve under MDTA, thirty-one beginning high school students, and twenty-nine college students of beginning shorthand.)

Typewriter transcription of student notes was built into this program beginning with Lesson 6. Participants in the study took a low of 72 hours to a high of 95 hours to complete this program of shorthand and transcription.

McMurtrie feels that this compares favorably with the traditional two-semester beginning shorthand time allowance. She believes that the Shorthand Structured--Learning Program can reduce by half the amount of time presently being used to train stenographers. The Sandia Corporation and others have reported unusual success with the use of this material in a company-sponsored training program for office employees.

EXISTING AND EMERGING CURRICULUM PATTERNS IN BUSINESS TEACHER EDUCATION

Business and office teacher education, like most other fields of teacher education, is operating within an environment intensified by change. We are provided, through such federal legislation as the Elementary and Secondary Education Act, the Vocational Education Act of 1963, the Higher Education Act of 1965, and the Education Professions Development Act of 1967, with unparalleled opportunities for improvement of programs at all levels as a means of keeping pace with expanding occupational needs in our field. As an outgrowth of these federal programs, monies are becoming increasingly available for the support of research and teacher education.

In line with the trend toward continued specialization in teaching, an increasing number of states are revising teacher certification requirements.

Pressures from the college community and from accrediting associations are operating, on many campuses, toward a significant increase in liberal education course requirements for business teacher training programs with a corresponding decrease in major field and professional courses.

Existing Patterns

The National Association for Business Teacher Education, as we all know, suggests that 38-42 percent of the total undergraduate business teacher education program be devoted to subject matter content. In a recent examination of the business teacher

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[12]Patsy B. McMurtrie, "Development and Evaluation of a One-Semester Stenography Course," Federally funded Office of Education Project, OE-5-10-326-2-32, San Francisco State College, Final Report, June 1966.

curricula of 96 colleges and universities, both public and private, Dr. Vera Kinzey[13] found a range of 23 to 56 percent of the total program being devoted to subject matter field. From 21 to 56 percent of the total program was devoted to general education while professional courses made up from 13 to 28 percent of the program.

The most commonly required courses were found to be accounting, typing, shorthand, economics and business law followed by office practice, business communication, office machines and marketing.

Emerging Patterns and Trends

Dr. Estelle Popham[14] recently polled NABTE members on changes occurring in business and office education teacher-training programs. From the results of her survey, she reported that:

1. Business teacher education at the graduate level is growing. Several additional masters and doctoral programs were reported.

2. Former teachers colleges are moving to college of business setups and striving toward compliance with AACSB requirements. In some colleges there is a trend toward adoption of the same core for business education and business administration students. In other colleges there is a trend toward two years of liberal arts before any specialization in business and office education. A significant number of schools reported increases in content courses. For example, the need for measurement skills is reflected in such required courses as mathematics for business analysis at San Francisco State College and a year of statistics at Temple University.

3. There is a continuation of the trend toward reduction of credit for the so-called skill subjects. Typical examples are no credit for skills courses for liberal arts or business administration students at Syracuse University, no credit for elementary typing at the University of Alabama. Through use of the electronic classroom, Illinois State University at Normal reports reduction in the teaching time for shorthand. Business machines are integrated with office practice in one college, and in another become optional rather than required. One university solved the credit problem by combining typing and shorthand subject matter with teaching methods and gave credit for the new courses, even in business administration.

4. There is also a trend toward reduction in credits in traditional methods courses. In some instances the credit for general methods was reduced; in others separate special methods were combined. For example, a course in methods in typewriting and another in methods of shorthand were combined into one course in methods in secretarial subjects.

5. Data processing has had the greatest influence on curriculum. In some colleges, a course in data processing is required for all business education majors; in others data processing is required of all accounting teacher trainees. In a far greater number of colleges such a course is given as an elective which business education students are encouraged to take. Several colleges offer data processing workshops or regular courses in data processing for employed teachers.

6. Changing requirements for certification, especially for certification as a vocational business teacher; education courses have also been added to college business teacher curriculums. The first such courses concern either philosophy or principles of vocational education. At the University of Georgia, history, philosophy and method in vocational business education is offered for employed teachers, in combination with other vocational fields, through campus and off-campus courses.

The second group of new courses usually required for vocational certification prepares coordinators of work experience programs in office education. Typical course titles are teaching cooperative work experience or

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[13]Vera G. Kinzey, "An Analysis of Business Teacher Curricula and the Attitudes of Teachers Toward Their Value," Ed. D. Dissertation, University of Georgia, 1966, p. 90.

[14]Estelle Popham, "Developing Vital Teacher Education Programs in Office Education," NABTE Bulletin 84, The Challenges of Change in Business Teacher Education, pp. 22-26.

organization and administration of cooperative programs. Again, at the University of Georgia, the course is entitled coordinating work experience programs in office occupations.

The opportunities for entry and promotion jobs in business and office education will continue to be excellent for teachers in comprehensive, academic, vocational schools, for coordinators of office education programs, for college teachers of office and business teacher education, for adult education, for teachers in antipoverty programs such as Manpower, Job Corps, Peace Corps, and neighborhood Youth Corps.

In a 1966 NEA Research Division report[15] of teacher supply and demand in public schools, we see that 60.9 percent of those graduating in business education entered public school teaching. This is typical of the past ten years during which the percentage ranged from 56 to 63 percent.

I would suggest that the following developments have served to create in our field a climate conducive to change:

1. An Increasing Research-Consciousness on the Part of Colleges and Universities. This is reflected in an increasing practice toward including research as a regular part of the teaching contract of the business teacher educator. In the university community, research has come of age as a partner in the improvement of education at all levels and in all fields.

2. Curriculum Research and Development. New programs in other subject areas (math and sciences for example) and in schools of business and education are changing what students learn in these areas of instruction. The interest and involvement as a Business Education Study Committee of some nineteen business and office educators from as many institutions in the recently funded "Planning Study to Determine the Feasibility of Developing a New Business and Office Curriculum" points toward an eventual restructuring of the total program of business and office education.

3. The Growth of Systems Design and Development. The systems formula is increasingly being applied as a method of attacking problems in business, government, industry and education.

Business and office teacher education programs are provided with the challenge of restructuring curricula, and in many instances, of expanding programs to accomodate the needs of teachers in training and to upgrade and retrain those already employed.

Because of the recency of the inclusion of business and office education as a reimbursed member of the vocational team, I see a strong need for attention to improved communication and cooperation at all levels.

Business educators have developed programs in the past which were effectively involved with and aided by general education. There is a need, I think, for us to continue the association and articulation of our field with other educational areas and experiences which form an integral part of the educational process. At the same time, there is a compelling need for us to examine ways in which we can become more effective, cooperating members of the vocational team. We need not lose our identity in doing so. The point is perhaps well made by reference to the Vocational Education Act of 1963 which focused on individuals rather than fields or services. We have responsibilities that involve general education. We also have responsibilities that, by law, involve vocational education. In reality, it would be difficult to separate these two goals for one is part and parcel of the other.

In looking toward new curriculum models for our teacher education programs we will want to examine the opinions of several of our business educators and others--all of which are not in complete agreement--as to the direction of our program.

Collins,[16] at a Business-Office Teacher Guideline Training Clinic, pointed out that office occupations teachers will have to be trained in more extensive skills. These teachers must impart not merely fact and basic skills, but must convey the attributes and values that are an integral part of the job.

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[15]"Teacher Supply and Demand in Public Schools, 1966," Research Report, 1966-R16, Research Division of the National Education Association, Washington, D. C., p. 22.

[16]Millard Collins, "Education Toward Productive Employment," Office and Business Education Teacher Training Clinics, Project OE 6-1522-1-32, Wayne State University, pp. 18-20.

Techniques such as problem solving, case studies, logical analysis will be a must in our courses, including the skill subjects.

Course content, whether in textbook form, units of study, or some form yet to be developed, can no longer be left to the textbook writers. There will have to be a close working relationship between writers, researchers, business and other groups producing media to insure flexibility, necessary content and depth in each course.

Dressell, in Current Issues in Higher Education,[17] points out the need for bridging the gap between liberal and professional education in a way so that the essential elements of a liberal education remain and at the same time provide competency for entry into some vocation.

He reminds us of the need for organization of essential knowledge into fewer and larger blocks by eliminating short-lived courses and duplicative materials. The fundamental goal of college is to produce an individual who is motivated and possesses the abilities to continue his own education; courses which duplicate or overlap or which contain materials of short-lived significance waste valuable time.

Wagoner[18] suggests that the principles of data processing--unit record and computer programming--would be a part of every business teacher program. Business teachers should understand school applications as well as business applications and be confident to advise schools on improving records, processing on machines and test analysis, grading and class scheduling.

Wagoner, along with many other educators, feels that a four-year program is not sufficient to certify a vocational office education teacher. He recommends teaching experience, technical education and professional education on the graduate level as requirements for full certification.

Culver[19] sees the subject matter field undergoing considerable change in the future, not so much in the semester hours involved as in the distribution of those hours. Generally, he anticipates some 40-50 semester hours will be required in the business teacher concentration covering the business core and the office skills.

He belives that the office skills at the collegiate level will recover from attacks, as from AACSB. Some indications are that collegiate office education may be improved. As secretaryship continues to assume professional stature and as the demand continues and becomes more accute for business teachers to teach more technical office skills at secondary, post-high school, vocational-technical school, community college, teachers colleges will find it increasingly difficult to ignore this area. However, collegiate office education will not be the same skills courses with which we are familiar today. As in all areas, business students will enter college with a higher level of skills and collegiate courses can build to a greater extent than is now possible. Actually fewer college-level courses in the skills area will probably be necessary to assure competency by business teacher education majors.

There is no reason to doubt that the skills courses will be taught by means of the variety of media that we discussed earlier--labs, tapes, TV, and others not yet in existance. Instructors and assistants will place particular emphasis on correct methods of teaching and development of correct operational techniques. It is not unlikely that advanced skills will be taught as a part of the particular methods class.

Individualizing instruction has the possibility of allowing students to move through their undergraduate program at their own rate, as their ability and interest permits. Quite likely the 4-year period required now can be drastically reduced through techniques as block grouping, reorganization of content and completing more credit hours during one enrollment period--which may or may not be quarters or semesters.

The trend toward diversified certification is becoming more apparent in every area of the school program and business education should be no exception. After

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[17]Paul L. Dressel, "A Look at New Curriculum Models for Undergraduate Education," Current Issues in Higher Education, Association for Higher Education, Washington, D. C., (1964), pp. 143-144.

[18]George Wagoner, "Presentation of Guidelines," Office and Business Education Teacher Training Clinics, OE Project 6-1522-1-32, Wayne State University, p. 38.

[19]Gordon F. Culver, "The Future of Business Teacher Education at the Undergraduate Level," National Business Education Quarterly, Vol. 35, (Summer 1967), pp. 42-43.

completion of the basic business core, a student should then plan his program to include concentrated course work in his chosen field of interest.

There is some justification, I think, for the view that business teachers should realize in their preparation an understanding and appreciation of the totality of our business and economic world, including basic concepts of ethics, behavior, and international relations. Disciplines of management, measurement and data processing should likely be included in the business core preparation supplemented by electives drawn from such related areas as insurance, real estate, law, transportation, accounting and business analysis.

As Roy Poe[20] so aptly reminds us, teacher-trainees frequently become teachers of shorthand, typewriting and bookkeeping and not total business educators, because this is the way they are trained to think and they never get out of the rut.

Block programming, cooperative education, individual progress, articulation of subject matter, the gradual but sure disappearance of the Carnegie unit, all call for a new approach to curriculum construction and greater adaptability to change.

Organic Curriculum

Robert M. Morgan and David S. Bushnell of the Division of Comprehensive and Adult Vocational Research, U. S. Office of Education, have identified conceptually a learner-centered educational program independent of many of the traditional restraints. The first step in building such an organic curriculum, according to these authorities, is to look at those behavioral requirements needed for entry into a variety of post-high school activities. These behavioral requirements are stated specifically and in measurable terms. Following the lead of the systems analyst, one describes as closely as possible the specifications of the desired end product. What are the ingredients of a high school program which will assure the attainment of these specifications? It will likely include academic as well as occupational training but may also include such components as personal development, real work experience, and post-high school placement functions. Each of these components and subparts must be defined in terms of its contribution to the attainment of the specified behavioral objectives. The integration and interaction of the components will be a result of careful systems design.

Such a new curriculum, through the integration of all its elements, would, theoretically, equip all high school graduates to enter a college and pursue the academic curriculum, to enter a community college or technical school for post-high school occupational training, to continue his education in an adult education program, or to perform effectively in an entry-level occupation. The key point is that he should be able to decide which to take after high school graduation, not three or four years before.

The "new" curriculum advocated by Morgan and Bushnell[21] would:

1. Emphasize the articulation between academic and vocational learning for the purpose of fusing the two programs. Employing vocational preparation as the principle vehicle, the inculcation of basic learning skills could be made more palatable to many students who otherwise would have difficulty seeing the value of general education.

2. Expose the student to an understanding of the "real world" through a series of experiences which capitalize on the universial desire of youth to investigate for himself.

3. Develop a core of generalizable skills related to a cluster of occupations rather than those related to one specialized occupation.

The method/media mix for any given sequence of objectives might include programmed instruction, single concept films, textbook readings, tutorial sessions, group discussions, computer-assisted instruction, slide-tape presentations, and others. The optimal mix of learning experiences would be developed by varying systematically the method/media permutations and testing for their teaching effectiveness.

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[20]Roy Poe, "New Challenges to the Business Teacher," Office and Business Education Teacher Training Clinics, OE Project 6-1522-1-32, Wayne State University, p. 49.

[21]Robert M. Morgan and David S. Bushnell, "Designing an Organic Curriculum," National Business Education Quarterly, Vol. 35, No. 3, (Spring 1967), pp. 5-14.

Implicit in this system is that the student only learns what he does not already know and that he will move as rapidly as his ability and motivation will permit.

The behavioral objectives and information about what media/method combinations are most appropriate for teaching them, to what kinds of students, are then stored in a computer. When the student enrolls in the course he is measured in terms of his entry performance on a representative sample of the behavioral objectives and this information is fed into the computer. The computer then looks at the characteristics of the student and how much he already knows and prescribes an empirically validated learning package for him. When this package is completed, the learner will be retested, and the next learning package prescribed. The outcome of such a system would be "programmed instruction" in its broadest sense. With much of the material in the system self-instructional, the student would have almost immediate knowledge of results, would work at his own rate and would experience a high proportion of success experience in the learning situation.

Although experimentation to date has involved only single courses, it is theorized that the model would prove equally effective with an entire curriculum.

Is it possible that such an organic curriculum pattern, pegged at the 9-14 grade level, might have significant implications for programs of vocational education and for vocational teacher education at the college level?

New Office Education Learning Systems

The word "moonshot" was used by Mr. David S. Bushnell, Director of the Division of Adult and Vocational Research, USOE, in an NBEA Research Foundation meeting in Washington, D. C., in October, 1966, to describe a massive, innovative curriculum research, development, and dissemination program needed in business and office education. Such a project was envisioned by the planners as developing a different business curriculum at the secondary and community college levels; one in which the graduate may be characterized as follows: Rather than a job applicant possessing limited skills, the graduate of the new curriculum would possess a broad understanding of business enterprise, its purposes, its functions, and its relationships. Rather than one whose knowledge is limited to performance of clerical tasks, the graduate will recognize important problems of business and business operations and would possess skills enabling their solutions. Rather than one who views his entry job as his future, the graduate will view his future as learning and adapting to a changed and changing business world.

In June of this year, the U. S. Office of Education funded a "Planning Study to Determine the Feasibility of Developing a New Business and Office Education Curriculum," Project #7-1223, through The Center for Vocational and Technical Education, with Dr. Frank Lanham at the University of Michigan as principal investigator. More recently, the proposal for the development of the first phase, entitled "New Office Education Learning Systems, Phase I," has been submitted for possible funding.

What is the nature of this proposed new curriculum? The following ideas will serve to characterize the essential nature of the NOELS Project as it has evolved through the cooperative efforts of some 19 colleges and universities as initiators:

1. NOELS is an interdisciplinary approach to research and curriculum development involving the cooperative thinking of teacher educators, supervisors, administrators, teachers, business administrators, behavioralists, systems analysts, businessmen, and others who will be involved in the developing and disseminating processes.

2. NOELS is a process for research and curriculum development. The process involves determining behavioral tasks, defining behavioral goals, sequencing the tasks for instructional purposes, developing strategies and materials for reaching instructional goals, testing, revising, packaging together the parts, testing, and placing the program in classroom use.

3. NOELS is a product, a six to eight hundred hour program of instruction pointed toward a cluster of office occupations as defined by the USOE.

4. Through a development program involving the total profession, NOELS is a research program. While built on the best evidence available, NOELS may of necessity involve major research important to our product.

5. Behavioral goals are extracted and representative of the behavioral tasks expected in entry office occupations.

6. As an instructional "package" or program, any single student may spend four hundred hours in common experiences with the remainder spent in specialized tasks of the specific occupation (learning to type, for example). (It should be pointed out that the number of hours indicated in numbers 3 and 6 above are approximations.)

7. The instructional time necessary to teach or learn the product, as a guess, should be divided into units or "modules"--perhaps from 10-20 minutes in length. In terms of a current lesson, then, a 50-minute classroom period would contain five 10-minute "modules" of instruction.

8. The technique of systems analysis and problem solving is peculiarly relevant to the subject content of office occupations. It is particularly fitting that this method of problem solving also be applied to the problem of developing, demonstrating, and disseminating a "new" office occupations curriculum. The systems approach provides for consistent and continuing analyses and corrections as each succeeding demonstration provides measurable outputs in office occupational behavior of individuals involved in learning. Each succeeding demonstration also admits to analyses of these outputs from the office occupations curriculum as inputs in office jobs as needed by government and industry.

How will NOELS be managed? It is a cooperative venture among many institutions and people. With respect to fiscal management, the main grant for planning and feasibility are located at The Center for Vocational and Technical Education. The Center can operate in at least two ways: 1) by a subcontract to another institution, including salaries, fringe benefits, overhead, and all other direct expenses; 2) by hiring individuals to do the work at other institutions.

With respect to organizational structure, primary planning functions for NOELS are centered at the University of Michigan where the task of the principal investigator has involved surrounding himself with talent who can help carry out the planning and feasibility study. In the first year of the major contract, if funded, it is anticipated that planning will continue toward drawing up the needs and specifications for ten to fifteen subcontracts and controlling their operation to fit the total project.

Currently the Center is assuming responsibility for fiscal handling and coordination of much of the work. Initial phases of dissemination are being conducted through Wayne State University with fiscal management in the Center.

NOELS, then, is viewed as a number of participating institutions, each contributing toward the mission of the total project. NOELS management will require careful organizational understandings and workable policies from the Board of Governors. NOELS management reuires intelligent central planning and control. NOELS management requires intelligent central planning and control. NOELS management requires wise subcontracting in a way that permits freedom and responsibility for getting the job done.

The following outline briefly presents the task to be undertaken in the development of a new office education curriculum:

PLANNING OUTLINE OF A PROPOSAL FOR A PROJECT TO DEVELOP
A "NEW" OFFICE EDUCATION CURRICULUM

I. Introduction

A. Purpose: To develop, test, and disseminate a new program for office education.

1. Extract the behavioral tasks expected of office employees to enter and adapt to an entry office job.
2. Determine specific ending behavioral goals necessary as the output of an office education program.
3. Arrange sequentially the terminal behaviors in a learning order.
4. Determine the number of modules required for attaining each terminal behavior.
5. Develop specifications for determing learning strategy--man, machines, materials.
6. Develop individual modules and test with target students.
7. Revise.
8. Pull package together, test, and revise.
9. Disseminate.

B. By "test," is meant eliciting data needed to evaluate the efficacy of the parts of the new system.

C. By "disseminate," is meant the involvement of teacher educators, supervisors, and all other decision makers in explaining and advocating the new curriculum.

D. By "curriculum," is meant all men, materials, methods, machines--within the constraints of present typical classrooms.

II. The Problems

A. The changing business world and changing offices and jobs in that world.

1. Information processing and "theory" as a foundation for office education--the need for a "conceptual framework."
2. The changing ways in which information is processed and the need for adaptive behavior.
3. The "information explosion" and its consequences in terms of needed interdisciplinary approaches to knowledge.

B. Office teachers do not have available:

1. Tools for keeping up to date.
2. Methods for determining with clarity the terminal goals needed by students and the consequences of those goals (measurement).
3. Systematic process for office curriculum modification through feedback.
4. Materials or strategies that match current educational potentials of "hardware" and "software."

C. Student's individual needs, all needs, have not been assessed in terms of office education curriculum.

1. The national concern for deprivation is an office education concern (17% unemployment among high school leavers; double that among certain racial and ethnic groups).
2. The "lip" service given to individual differences in the past, but the potential of utilizing new strategies to attack the problems of a wide range of variability and the unique characteristics of pupils who face daily the classroom teacher.

D. Problems related to dimly-viewed or unorganized interface of office education with:

1. Other systems or subsystems in education--general versus vocational; local versus state; local, state versus federal; business and industry subsystems; and/or governmental subsystems.
2. Business and economic units and their pressing changing needs.
3. Home, social, and political units that provide, on the one hand, resources to be used, but on the other, challenges and criticisms to be met.
4. Related educational disciplines and their contributions--business administrators, behavioralists, learning theorists, psychometricians, economists, engineers, etc.

III. Scope

Scope of office jobs involved, of level, of students, of teachers, of teacher education institutions, of decision makers. The self-correcting system. Scope of fundamental research. Dissemination.

IV. The General Approach

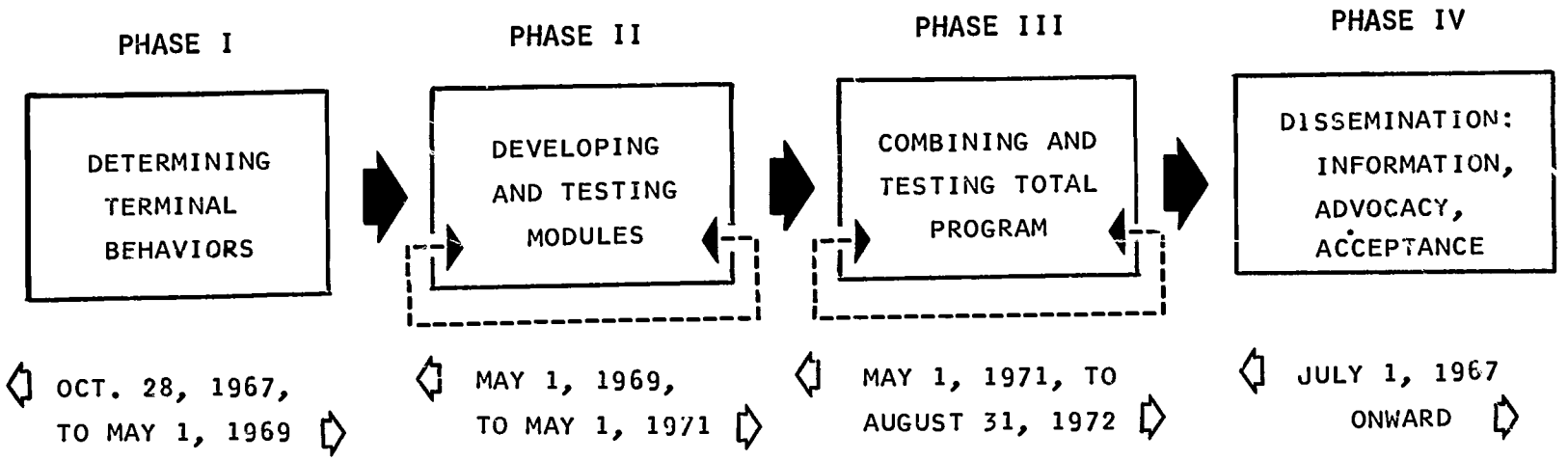
A. Guiding characteristics:

1. Theory of information applied to office education.
2. Qualitative themes of office worker competence.
3. Scope of functions of business.
4. End goal of acceptance.

B. Organization and management to get the job done.

C. Four phases of total project (see chart on next page).

N O E L S--THE OVERALL APPROACH BY PHASES



	PHASE I	PHASE II	PHASE III	PHASE IV
MAJOR ACTIVITIES TO BE COMPLETED BY PHASES	A. JOB TASKS--PRESENT AND PREDICTED B. TERMINAL BEHAVIORS OF "NEW" GRADUATE C. TESTS OF TERMINAL BEHAVIOR D. STRATEGY OF EVALUATION OF SYSTEM COMPONENTS: STUDENTS' ENTRY, STUDENTS' AT OUTPUT, INDEXES OF JOB MARKET AND ACCEPTABILITY IN THE JOB MARKET, TEACHER ADAPTATION, ETC. E. PILOTS TO TEST THE SYSTEM F. FUNDAMENTAL RESEARCH--"ADAPTABILITY"	A. SEQUENCING OF LEARNING MODULES B. DEVELOPING OF MATERIALS AND STRATEGIES C. TESTING AND REVISING (NOTE: DISSEMINATION BEGAN WITH THE PLANNING AND FEASIBILITY STUDY.)	A. COMBINING MODULES INTO PROGRAM B. TESTING PROGRAM C. REVISING PROGRAM	A. UTILIZATION OF MEDIA (ALL MEDIA) FOR INFORMING B. INVOLVING TEACHER EDUCATION INSTITUTIONS AND TEACHERS THROUGH TEACHER WORKSHOPS, BUSINESS TEACHER MEETINGS, CONFERENCES, ETC. C. INVOLVING ADMINISTRATORS, SUPERVISORS, GOVERNMENTAL REPRESENTATIVES AT APPROPRIATE LEVELS, PROFESSIONAL ORG., ETC. D. UTILIZATION AND INVOLVEMENT OF RELATED DISCIPLINES AND BUSINESS GROUPS E. IDENTIFICATION OF BUS. EDUCATION TALENT

V. Expected Outcomes

A. A product: "New" office education curriculum.

B. A process: A self-correcting process or system for curriculum modification.

A most important contribution of a restructuring of office education is the extent to which it could stimulate teacher excitement. As teachers we tend to be traditional, to learn the way we have been taught and to teach what we have learned in school and the office. But the world of the office has changed. If a project, such as the New Office Education Learning System, or some other, could motivate teachers to a new concern and excitement about their work, the results would be of inestimable value to our field and to education.

Unified effort on the part of business and office education leadership has until recently lacked means to focus on a broadly supported national curriculum project. The impact in changed content and teaching of "new math," "new sciences," "new English," and other curriculum areas has proved the efficacy of similar programs in those areas. In the office curriculum area, we now have a wide range of organizational support and an opportunity to develop an educational program geared toward the criteria of a.) individualization, b.) variability, c.) flexibility, d.) current relevance, e.) adaptability to change, f.) enhanced total learning, g.) articulated sequential learning, and h.) economic feasibility.

CONCLUSION

Perhaps the greatest task of the business and office teacher educator is to bring about more creative teaching--the desire to experiment, to be innovative, to find new ways to motivate and inspire learning. Creative teaching implies better scholarhip, an intellectual curiosity, greater professionalism. We must somehow find ways to get our teacher-trainees to care enough about their profession to read widely; to continue to educate themselves; to join and participate in education, business and community organizations; to write for publications. One of the problems of our educational revolution is a demand for an endless flow of new learning materials with fewer and fewer people ready, willing, and able to prepare them.

Everything I have been saying has direct implications for education, both general and vocational. As we look ahead to the effective and good education future, we see it becoming more and more difficult to distinguish between what is general and what is vocational. What is general education for one person may be vocational for another, and vice versa. The important point for business and office educators is that our programs of the future must be flexible and geared toward change.

In preparing ourself for this task, we need to heed the words of the late Carl Sandburg who wrote this just for you:

Lay me on an anvil, O God
Beat me and hammer me into a crowbar
Let me pry loose old walls
Let me lift and loosen old foundations
---Carl Sandburg, Prayers of Steel

SUMMARY OF THE REMARKS AND DISCUSSION OF PARTICIPANTS

Marla Peterson*

The following possible research projects were identified by the participants at this session:

1. An in-depth investigation of what work experience is important for business and office education teachers and students.

2. Identification of the types of offices in which students and teachers are receiving their work experience.

3. How much mix from anthropology, psychology, labor economics, etc., should be introduced into the vocational teacher education curriculum? Should new, integrated courses be developed or will existing courses be added to student programs?

4. What knowledges and skills are common to a number of occupations? For what job clusters can we prepare students?

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NEW APPROACHES IN PROVIDING THE MAJOR FIELD (SUBJECT MATTER) CONTENT FOR DISTRIBUTIVE EDUCATION TEACHERS

Leroy M. Buckner*

As teacher-educators dealing with an area or field of education that has in the past been characterized more by its method of instruction than by its discipline, the subject of this paper is currently of high importance. Rightly or not, a large proportion of the content offered in the classroom of the cooperative-distributive education program emanates from the conditions and experiences found daily in the business firms employing the student workers. Simply stated, the student employees working in part-time jobs bring to the classroom those experiences occurring on the job and these experiences, often in the form of problems or critical incidents, form the major part or core of the classroom subject matter content. As such, the classroom affords the opportunity for student employees to acquire satisfactory solutions for social and occupational adjustment. This is as it should be. Personal and social adjustment by students to employment should be an objective of distributive education and every other vocational program. BUT, should occupational adjustment be the major portion and the nucleus of the discipline of the D. E. classroom? Should the part-time beginning job of a student determine the subject matter content of the formal class or should the part-time job provide the opportunity to apply the principles and theories of marketing, management and distribution--the content in the classroom subject matter? Perhaps, it's something of a question of which comes first--problems and then solutions or theory and principles (knowledge) followed by application. It seems this question was not so important until a few years ago.

With the advent of the project plan of instruction added to the existing cooperative plan more attention had to be given to determining the subject content of distributive education or precisely what is to be taught in the formal classroom.

Warren Meyer[1] explained the difficulty facing us when we define distributive education and what should be taught in our classes.

> Distributive education is distinguished among occupational fields by representing a people-oriented occupational cluster with roots in the behavioral sciences. Since the behavioral sciences are less concrete and exact than the physical sciences, the competencies involved in distributive occupations are more difficult to measure, and it is more difficult to distinguish between those who are trained and those who are not. This causes distributive education to be vulnerable.

We find D. E. is vulnerable in the high school and junior college classrooms and, perhaps even more so, in the teacher education institution. We are vulnerable unless we can clearly define and distinguish that body of knowledge which is taught only in distributive education classrooms.

John Beaumont[2] put it this way. "Unfortunately some teacher-coordinators have an idea that they are in a work experience program. They have little realization that their fundamental job is to teach the place of distribution in the economy, the

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[1]Warren G. Meyer, Distributive Teacher Education: Its Role in Program Development, (A Seminar Paper), (Distributive Teacher Education Seminar, Michigan and Arizona State Universities, 1967).

[2]John A. Beaumont, An Address to Statewide Meeting of Coordinators of D. E. in N. Y. Feb., 1959, (Mr. Beaumont was at that time Chief of D. E. Service, U.S.O.E., Wash., D. C.

organization of marketing and merchandising activities, and the knowledge, skills, and attitudes needed by all persons engaged in distribution."

In the U. S. O. E. Guide, Distributive Education in the High School, Kay Brown[3] stated:

> The substance of preparatory curriculums is identified with the competencies universally needed in distributive employment.

If we accept this statement in its entirety then we're in agreement that the specific part-time job held by the individual student worker is not the dominant part of the curriculum, but that those competencies universally needed in distributive occupations is the substance or the discipline of our instructional programs. Marketing then, is the discipline, and the competencies universally required of workers in the satisfactory performance of marketing activities and functions determine the subject matter unique to vocational instruction in distributive education.[4]

You may think we're spending a lot of time clarifying and identifying subject matter of D. E. However, unless this is clearly understood and unless we start with this premise of having a truly unique body of knowledge in our curriculums our unique distributive teacher education programs have no firm foundation to continue existance or development.

Ralph Rush[5] stated this point of view in an interesting manner. He said:

> The D. E. teacher educator has the responsibility to teach and train school students (below baccalaureate level) and adults to become competent and actively involved in the field of distribution through a third person called a teacher-coordinator.

To a limited degree distributive educators, authors, and practitioners have identified those universal competencies needed in distributive occupations. Throughout the history we have had studies done of various occupations usually in the form of descriptions or analyses of specific jobs. I think we all would agree that the curriculums in D. E. must be constructed of those competencies needed by distributive workers. The nation's leaders in D. E. agree with this philosophy and certainly any other approach to the design of curriculum would not be vocationally sound.

In the Review and Synthesis of Research in Distributive Education[6] it was stated:

> Although the distributive occupations are numerous and diverse in nature, there are certain competencies which, in the minds of many practitioners and seasoned educators, distinguish them from other occupational groups. No research was located which confirms this belief.

To date we do not have complete information concerning the specific competencies needed by distributive workers, or in what proportion, relationship, or importance. We're going to have this information soon as this is the purpose and the subject of a major research project being conducted by Mrs. Lucy Crawford entitled A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education. When completed sometime in 1968 this study, which has been proclaimed by many people as one of the most outstanding pieces of research in the history of D. E., will provide the answers we need to strengthen our convictions or change our practices in teacher education. As the first part of Mrs. Crawford's study shows, the nation's leaders in D. E. do express general agreement as to the philosophy of distributive teacher education: that is, how should the teacher-coordinators be prepared to teach the subject matter to students. Following are some of the statements of belief concerning subject matter teacher education:

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[3]Kay B. Brown, Distributive Education in the High School, (unpublished document, U. S. Office of Education, 1966), pp. 21, 33.

[4]Ibid.

[5]Ralph A. Rush, Gearing the Teacher Education Program for Teaching by the Project Method, (Seminar Paper #2), Distributive Teacher Education Seminar, (Michigan and Arizona State Universities, 1967).

[6]Warren G. Meyer and William B. Logan, Review and Synthesis of Research in Distributive Education, (The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio).

87. That D. E. teacher coordinators need specialized training both as teachers of marketing and as coordinators of cooperative and project training.

89. That D. E. personnel at every level should be currently occupationally knowledgeable in distribution.

90. That in a changing world of distribution it is essential that both content and teaching method in D. E. be kept up to date.

91. That both group and individual instruction should be used in in-service training of D. E. personnel.

92. That distributive education teacher-coordinators should be involved in the D. E. Adult program in some capacity, even if only advisory, thereby increasing their own occupational understandings and also creating a more favorable environment for their students.

93. That teacher-coordinators should return to a distributive occupation at intervals when updating is needed and advisable.

95. That teacher education for post-secondary instructional personnel should include advanced depth study in a distributive field or in a distributive function.

Now while we still can't be absolutely precise in stating what subject matter or technical knowledge is needed by teacher-coordinators to develop competencies required of distributive workers we do know that there are variations and real differences in existing teacher education programs. For example, the number of credits earned in technical subject matter content required of D. E. majors enrolled in institutions listed in the Council on Distributive Teacher Education Directory 1967 ranged from 26 to 53 semester credits. This means that in our university teacher education programs, technical or content subject matter accounts for 21 percent to 45 percent of the total credits required of four-year graduates in distributive education. Of course, these figures are the extremes, but the differences are great with the average being about 35 to 40 credits but accounting for only one third of the schools.

I know of no study of the specific technical courses or content of courses in the university teacher-education program, but I know that there are many differences existing. Some of these differences in content courses occur because we have a deep conviction(s) based on our own educational, occupational, and professional experience. Other differences occur in the quantity and/or content of the subject field preparation simply because the teacher-educator has had little control or influence in the curriculum design, or the design of one institution was impossible to duplicate because of size of enrollments, facilities, teachers and other factors.

The situation is summed up by Rush's[7] observation as expressed in a recent paper.

> To say that a particular school or department is vocationally oriented does not necessarily mean it looks with great favor on distributive education. Historically, vocational schools or departments are administered by persons with backgrounds in other vocational subject areas. In all too many instances, distributive education is relegated as an incidental vocational service and has to make do with what is "left over."
>
> Carry this one step higher and consider distributive education at the teacher education level. What is the background of the administrator of your program? Is the teacher-education curriculum in distributive education built around some other subject area which existed prior to the time distributive education was included?
>
> Are admissions requirements, qualifications of faculty, library materials, equipment and facilities the same? Are all of these designed for the purpose of serving needs of preparing teacher-coordinators of distributive education or are they designed to satisfy minimal requirements within the framework of already existing programs?

Let's consider what technical subject matter should comprise the teacher education program of distributive education instructors. It seems we have a number of criteria to use but little substantial evidence to base decisions on the composition of the curriculum. For example, should we provide a broad, general business

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[7]Rush, Gearing the Teacher Education Program, (Seminar Paper #2).

administration background as subject field preparation for distributive education teachers? We could say "yes" because our subject field is marketing, merchandising and management and certainly the last area covers virtually all business functions if not the first two. Also, in order to understand and teach the marketing concept of modern-day business, we could say that we must approach the study from a "managerial" point of view in which all activities of the business enterprise are known and appraised. Furthermore, our reasoning could include the thesis that because of the rapid changes in operations due to automation and technology, our major concern must be with concepts, principles and theories. Therefore, we might conclude that specialized technical subject matter in marketing shouldn't be taught on the university level because it may be too descriptive, too vocational, or it may change tomorrow. Please note that I say we might draw that conclusion and many universities have done just that. In a most recent study of marketing education conducted in colleges in the United States, it was stated that "principles of marketing are now taught in approximately one thousand universities and colleges in this country, and that many courses are offered in specialized marketing subjects." However, specialized courses experienced not only a decline in number of courses offered, but also an accompanying decline in enrollment. The respondents' forecast of changes to take place in the number of courses offered show a belief that advertising and retailing courses will suffer the greatest absolute decline." (Luck, 1964).

The question certainly arises, "Should we, as distributive teacher-educators be preparing generalists or specialists to teach the discipline of distribution?" There are some good arguments for the even more specialized subject matter within the somewhat limited business area of marketing. William R. Davidson,[8] past president of the American Marketing Association states:

> While retailing derives significance and purpose only from the larger process of which it is a part, it is an activity the performance of which tends to be carried on by institutions specializing or engaging primarily in it. By virtue of its distinctive attributes, it is also recognized as a specialized area of knowledge for purposes of study and research..... Because of its focus on the ultimate consumer, marketing at the retail level of distribution is substantially different from marketing activities of original producers, manufacturers, or middlemen who are selling to resellers or to business or institutional customers.

We can continue to support our argument for more and more specialization in the treatment of subject matter in the business area by pointing out that this is an "age of specialization." Think of the many specialists in the field of medicine or engineering or education. Certainly the beginning and middle management levels of occupations in the marketing organizations and institutions require rather specialized competencies. And, whatever approach to marketing education we use--the systems approach, the commodity approach, the institutional, the functional or the managerial approach--the competencies needed for performance of marketing activities have to be communicated and acquired. A very recent study headed by Warren Meyer[9] classified these competencies into three "Learning Activities:" 1) Technical Competencies, 2) Occupational Adjustment Competencies, and 3) Career Development Competencies. Of course, here we are primarily concerned with providing the teacher-coordinator with technical competencies that will make him occupationally competent to some degree and knowledgeable to teach others although it is difficult to separate the three classifications of competencies.

In 1964, Dr. Peter Haines studied the preparation needed by high school teachers and coordinators in distributive education and found that "teacher-educators believed that the series of marketing courses taught in most colleges and universities did not provide all the content deemed essential for the teacher of distribution."[10] If we asked ourselves if our own preparation in the technical subject matter was absolutely satisfactory insofar as depth, breadth, theory, and practice, it is doubtful anyone would answer, "yes."

Dr. Raymond Dannenberg[11] summed up the feeling of most of us when he said, "To prosper and grow, the distributive education movement will need to develop more

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[8]William R. Davidson and Alton F. Doody, Retailing Management, 3rd Edition, (New York, New York: Ronald Press, 1966).

[9]Warren G. Meyer, Pilot Training Project Based on Directed Occupational Experience, (A U. S. Office of Education funded study, 1967).

[10]Meyer and Logan, Review and Synthesis.

[11]Raymond A. Dannenberg, "Leadership Opportunities in Distributive Education," American Vocational Journal, (Vol. 41, No. 9, December 1966), pp. 36-37.

leaders of a specialized nature--as has been done in other educational areas." Our specialized curriculums of study in junior college D. E. programs and adult education courses do require different specialized subject matter preparations. And certainly there are too many differences in the academic and administrative systems and policies of our fifty-plus teacher-educator institutions to prescribe a single program of technical subject matter. So, let's consider some of the major components or ingredients of a program without specifying the exact proportions of a subject matter specialization. (Please note that we're concerned here with only the subject matter area and not the so-called general education or professional teacher education courses.)

The areas of instruction in D. E. curriculums can be used as a guide for determining the subject matter preparation of teachers. An outline of the areas of instruction appears below:[12]

A. MARKETING

1. Selling
2. Sales Promotion
3. Buying
4. Operation
5. Market Research
6. Management

B. PRODUCT OR SERVICE TECHNOLOGY

1. Product Knowledge and Techniques
2. Service Knowledge and Techniques

C. SOCIAL SKILLS

1. Business Social Skills
2. Ethics
3. Human Relations
4. Supervisory Skills and Leadership

D. BASIC SKILLS

1. Application of Math
2. Application of Communications

E. DISTRIBUTION IN THE ECONOMY

1. Channels of Distribution
2. Job Opportunities in Distribution
3. Distribution in a Free Enterprise System

Based on this outline of areas it may be readily seen that a general business administration program or a major in management would not be the best preparation for a teacher in distributive education. Some general business subject areas are involved just as there are areas of economics. However, a general business administration major program or a management major, or an economics major program probably would not provide the depth of knowledge in the more specialized subject matter such as sales promotion, buying, or selling. Most undergraduate degree programs in general business administration have developed or evolved around two functions in business--accounting and finance. And, it is not unusual to find complete degree programs in business administration being offered without including even a single course in marketing. The curriculum designs of many schools of business have been endorsed and influenced by the large production and processing business firms so that they are really "production oriented" or "big manufacturing business minded." Robert W. Ferrell, author of the book Customer-Oriented Planning, describes the marketing function as an "evolving area of specialization" and claims its importance currently is not understood (Ferrell 1963). Many, if not most of current marketing textbooks treat the functions of marketing from the viewpoint of an industrial producer "pushing and pulling" his factory's output through preselected retail outlets. This hardly describes current marketing practices and in a consumer-oriented economic system this hardly goes as sound theory. To sum up this part of the discussion, we can say that the established major programs in the colleges of business administration, even marketing major programs or business education programs, generally do mot fill the needs for subject matter preparation for teachers in distributive education. Specially designed curriculums for teachers of distribution and marketing are required.

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[12]Brown, Distributive Education, pp. 21, 33.

A very fine guide has just been completed entitled Distributive Teacher Education--Its Role and Services. Prepared by Professor Kenneth Rowe at Arizona State University, it includes excellent suggestions and guidelines based on sound and up-to-date principles and theories for establishing or evaluating university programs of distributive teacher education. Regarding the technical courses in distribution and marketing is the following statement:

> Such specialized instructional areas as economics of distribution, the marketing functions of selling, sales promotion, buying, operations, and management, and product and service knowledge should be available in the pre-service curriculum....He (the teacher-coordinator) need not be an expert in all distributive functions, but he does need to understand the interrelationship and contribution of these functions to successful marketing practices.

We all could heartily agree with this statement and, if we had complete authority and opportunity, we might provide a program to include at least one special three-hour course in each one of these areas followed by planned and guided occupational experiences. But, most of us do not now have that opportunity or responsibility. Three out of four distributive teacher education programs are located in and administered by colleges or schools of education, (CDTE Directory, 1967). In this arrangement the technical education is provided as a service to D. E. majors by the college or school of business administration. In some cases special technical courses are provided by the college of business for the future D. E. teacher-coordinators in the college of education. If the program is located in a college of business, then the college of education must furnish service courses in the area of professional education. Either way the teacher-educator must gain the support and cooperation of the leaders of (major) divisions on the university campus.

While the Vocational Act of 1963 extends allowable expenditures in in-service teacher education to provide for technical subject matter courses, this does apply to pre-service distributive teacher education, (or at least there are difficulties in the financial administration). This presents a problem. For example, assume a college of business offers only two general marketing courses such as principles or introduction to marketing and marketing management. The subject content of the courses include practically nothing concerning display, retail advertising, salesmanship or buying--some of the major activities of retail and wholesale operations. The department of distributive teacher education is located in the college of education which is committed to the policy of providing only the professional education--not technical subject matter--for the education majors. The business college is not willing to use its funds to conduct specialized technical courses attended primarily or exclusively by education majors. A stalemate appears to exist.

The college of business in a university does not wish to proliferate the curriculum of business administration and, there are constant requests for additional courses to develop specialized areas of business operations. The objective is to prepare men and women for future administrative positions in government, business and industry, and/or advanced studies.

The following statement exemplifies this philosophy:[13]

> Preparation for a career in business and government involves substantially more than the vocational or specialized approach utilized in the past by many colleges and universities. It is not enough that the student learn a body of specialized knowledge related to a functional field such as banking, insurance, advertising, personnel or accounting.

The leaders in business administration colleges have been criticized severely for being anachronistic--not keeping up--with changes and developments in the business world. And, along comes the college of education with a specialized, relatively new and very small area of vocational education requesting the college of business to offer very specialized subject areas such as salesmanship, buying, operations, and merchandise information.

In the guide Post Secondary Distributive Education, Dr. Harland Sampson[14] grouped the curriculum contents in D. E. a bit differently than other writers on the subject. He listed four areas or divisions comprising the post-secondary curriculum:

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[13]Florida Atlantic University, Bulletin, (College of Business and Public Administration, Boca Raton, Florida, 1967-1968).

[14]Harland E. Samson, Post Secondary Distributive Education--A Suggested Guide, (Prepared for the U. S. Department of Health, Education and Welfare, 1967).

1. General Education
2. Business or Business Administration
3. Marketing or Distribution
4. Technical or Emphasis Area

This same division could be applied to the curriculum in the high school D. E. program. And, if an area of professional teacher education was added as a fifth division we could be describing the distributive teacher education curriculum. The areas of study are virtually the same. The main variations exist in the amount of course work or the degree of emphasis given in each of the areas.

In the distributive teacher-education curriculum technical education or subject matter preparation should "match up" with that subject matter in which instruction will be given. The two major concerns are:

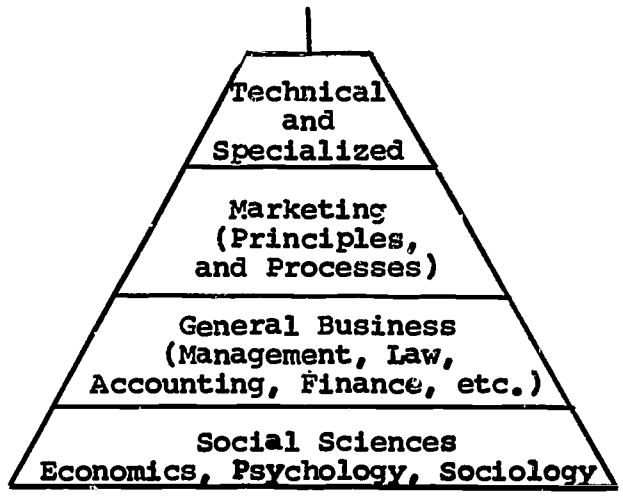
1. What degree of emphasis or proportion of the total content should each of the divisions of technical education be given?
2. When and where should the technical education be provided?

The first concern or question will bring forth about as many answers as we have teacher educators. Most distributive teacher education programs have prescribed minimum requirements in each of the areas of general education, professional teacher education and technical education. Oftentimes these minimum reuiqrements have been set by or influenced by the teacher-certification division of the state department of education. Especially is this true for high school distributive education teachers. However, these requirements may not be realistic or they may be out of date or so flexible that they're impractical to use as a guide. The successful teachers of distribution and marketing have backgrounds of technical education which are quite varied ranging from those who have had only two or three general business courses to those who have had 30 or 40 courses in the many different subject matter areas. It appears that oftentimes full-time occupational experience has been considered more important than collegiate studies as preparatory education when the qualifications of teachers are listed. In the vocational field of D. E. we certainly cannot minimize the extent and value of knowledge which can be obtained from occupational experience. However, we can realize that the discipline of marketing is a unique body of knowledge which can be communicated to others or why have distributive education at any instructional level.

Another point relating to divisions of the subject matter preparation is the actual content of the course. "A rose is a rose" does not apply to college courses in marketing or business administration. Titles of courses listed on transcripts are oftentimes misleading or confusing. For example, a course listed as "Marketing Communications" can be an excellent course in advertising and sales promotion. And, because of the popular word "management" one can find a dozen courses having the title but none containing theories, principles, and practices of management.

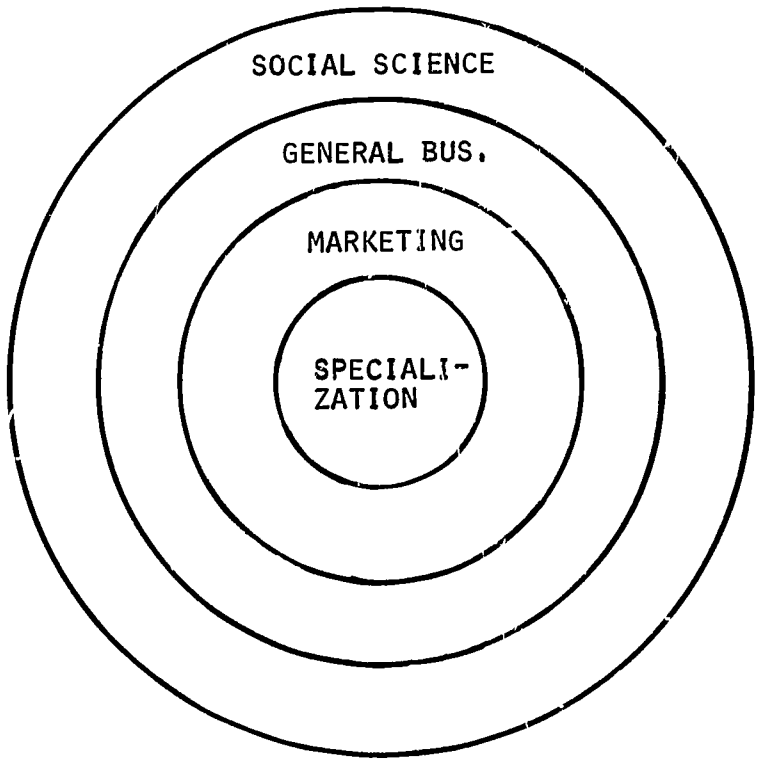
The second major concern is the "where and when" to make available the technical subject matter education. Traditionally, education programs have been designed like pyramids; that is, the broad, general, indirectly related knowledge is provided (and oftentimes, required) first. This area of knowledge forms the base and covers the widest area. The next level of education is built on top of the first level and, it is less general and more specific in content. Each succeeding layer in the educational program is more and more specialized, descriptive, and more specifically related to particular tasks or job performances. In the realm of technical subject matter our distributive teacher education programs often times are.

THE DISTRIBUTIVE EDUCATION PYRAMID



Most professional education programs have been developed and administered using this pyramid design for guiding the students learning experiences. But is this design the best? Is it the only sound approach to programming the students' educational experiences? What would happen if we reversed the approach by turning the pyramid upside down? The student would then proceed from the technical, specialized content, to the broader subject matter, to the general business and administrative management areas and completing his program by studying the general theories that are found in the social sciences.

What are some of the possible outcomes of this reversed pyramid programming? Since it is more "life oriented" the student may be more acceptive and have a positive, goal-directed attitude. He begins his study in areas of knowledge which are practical, specific, identifiable and readily recognized. He is not overwhelmed by the vastness of the subject areas. As he proceeds he can relate in a concrete manner the broader and more general areas of business and social science theory to the specialized marketing operations. It seems the students would be better able to comprehend and apply the theories of the related disciplines to the interdisciplinary field of marketing. The specialized technical subject matter is the nucleous or focal point around which the broader subject areas revolve.



This "reversed pyramid" approach is basically the current plan for distributive teacher education at Florida Atlantic University, Boca Raton, Florida. FAU is strictly a senior university, the first of its kind in the nation. Admitting students only after completion of sixty semester credits of collegiate studies at other institutions, Florida's system of public junior colleges provides the opportunity for virtually every student to continue education through two years of college right in his own back yard. The D. E. programs are currently offered in 11 junior colleges with two or more different types of D. E. curriculums in 8 of them. With the guidance of the coordinators, students may complete specialized and management programs in distribution and marketing such as hotel management or retailing in the junior college and then be admitted to the distributive teacher education program at Florida Atlantic University. Incidentally, this program is offered jointly by the College of Education and the College of Business and Public Administration. D. E. majors in the junior college study highly specialized technical courses taught by vocational educators and requiring directed occupational experience. In addition, they will have completed some 30 semester hours of basic, general education and perhaps some few general business courses. At FAU the students continue studying subject matter specialization, completing general business, marketing, management and selected social science courses. The heaviest concentration of technical education is found in marketing and management courses. Because these are the two competency areas universally needed by all marketing personnel, it is logical that they receive the greatest attention. The marketing courses are marketing principles, marketing management, marketing research, marketing policies and problems, retail marketing and international marketing. All students complete at least four of these courses. In the management areas, at least three courses are selected from titles such as management planning and control, personnel management, administrative policy, supervision and leadership, training and career development methods, administrative communication. The two areas are the major fields of technical

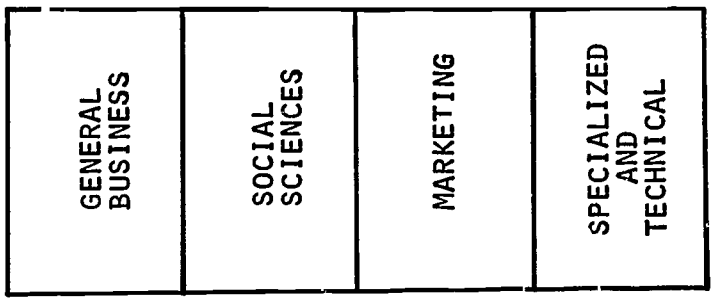
subject matter. Supporting technical courses include a six-hour course in accounting and a three-hour course in business law which may be completed in the junior college or not.

This program of studies wasn't easy to obtain. Conventional business administration cleans and professors want all students to complete a common core program of 45 to 60 hours made up of subject areas such as money and banking, corporation finance, cost accounting, business statistics, computer logic, etc. This would be fine but it prevents the student who is preparing to teach from acquiring any experiences in his specialized business field of marketing and distribution. And this our future distributive teachers must have.

There are also those educators who would attempt to combine D. E. with B. E. and provide a simple program of technical studies. With this plan our D. E. majors sacrifice the discipline of marketing for courses like office machines, report writing, and advanced typewriting.

The third approach to programming the technical curriculum is vertical column design, where a student studies the four main areas of technical education at the same time progressing in complexity from semester to semester through the four years.

VERTICAL COLUMN PROGRAM



Certainly there are other approaches. All of our programs are influenced by tradition and teacher-certification policies. Dr. Ray Dannenberg pointed out we're going to have tc design different curriculum which will prepare specialists in D. E.--specialists in adult education, supervisors, curriculum writers, project plan teachers, junior college coordinators, area vocational school specialists and others. One simple plan or design won't continue to serve our needs and so far we've discussed only the pre-service education of teachers. We haven't even mentioned the approaches to providing in-service technical education for our hundreds of retreads, our students in graduate continuing education courses, and many other needs.

Personally, I think we had better concentrate our main energies in the undergraduate pre-service program to make it attractive, widely known and accepted, practical and effective or else we'll be putting out fires all over the states for the rest of our lives.

SUMMARY OF THE REMARKS AND DISCUSSION OF PARTICIPANTS

Kenneth E. Hoffman*

The increased development of junior and community colleges will probably introduce a trend toward more highly specialized offerings in distributive education subject matter at the freshman and sophomore level and more generalized offerings at the junior and senior level.

Teacher education in distributive education might be improved in institutions where the college of business offers the subject matter and the college of education the professional only, by developing a third or alternate source of subject matter preparation for prospective teachers.

Research is needed to determine the place in the institution wherein distributive teacher educators can function in the best manner. Research is also needed to identify the type and amount of subject matter content that distributive education teachers need to have at both the undergraduate and graduate level.

In light of recent social, economic and occupational developments, some new imaginative and innovative approaches need to be implemented, and so far hardly any have come out of teacher education and almost none from vocational teacher education. Looking less and less at tradition for patterns of teacher education, two-year programs for teacher aides and others must be provided for work in the inner city, the ghetto. Distributive education must be taken into the city, and in doing so, the traditional practice of offering distributive education in the high school and educating thirty seniors is less and less satisfactory.

The coordinator of instructional programs in vocational education in the future will probably be a coordinator of a team which included several specialists, each functioning on a different level.

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SUBJECT MATTER CONTENT NEEDED BY OCCUPATIONAL HOME ECONOMICS TEACHERS

Joyce Terrass*

Occupational home economics may be imagined to be a special kind of hybrid from the tree of home economics. This hybrid will grow as a plant or a tree; it will flower or bear fruit in the manner in which it is fed, watered and given tender, loving care. One of the branches, the needed subject matter content, is neither in full bloom nor has it become a full-bearing branch. It is still uncertain which way to grow. The attempt to direct and further this growth is the purpose of this talk.

Several questions immediately come to mind. What kind of preparation do occupational home economics teachers need? Where do they get this training? Can we educate teachers for both homemaking and occupations? Should all teachers be prepared to teach both and if so, how? Do teachers need a degree of skill to teach occupations? Should this skill be developed through a college program of some kind? And finally, where and how do we find the answers to these questions?

There are several logical places where we might gain information which would indicate subject matter content. We will list a few of these sources first and then discuss each one.

1. Research.
2. Industry.
3. Occupational home economics teachers.
4. College home economics subject matter teachers.
5. Home economics workshops and seminars related to this area.

First, regarding research, comparatively little has been done to date in this area of home economics occupations. For one thing, due to a sense of urgency and necessity, we have been too busy helping with new occupational programs to have time for research. For a while some of us were not ready to accept this new change to home economics; this has also been a deterrent in starting research. Research takes time, and we have not had time to wait, but we desperately need research and we should accept this challenge and responsibility. As research studies are completed, we will find guidelines in all areas and will need to make some adjustments and changes accordingly.

Some research, however, has already been done. In Washington, the Department of Education of Washington State University and the State Board for Vocational Education under contract to the Office of Education, U. S. Department of Health, Education and Welfare have done research in two areas. One study was titled "Identifying Clusters of Knowledge and Competencies Associated with Performance of Child Care Work," and the other "Identifying Clusters of Knowledge and Competencies Associated with Performance of Food Work." As yet, a final report of the findings is not available.

At Iowa State University, a research study by Frances Shipley, called "Analysis of Tasks in Three Household Related Tasks," was completed this summer. The tasks analyzed involved nursing home house-aides, hotel and motel house-aides, and health-aides. The common tasks of the three were determined, and functionally related tasks were grouped in clusters.

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At Purdue, a clothing and textiles major has started a research study in occupations related to the clothing services, which should be completed this spring. These are some examples of the kinds of research projects being done.

Secondly, we must explore the implications which information obtained from industry might have for subject matter content. We have found that industry would like the trainees to have the following characteristics:

1. A desire to work.
2. A sense of responsibility.
3. A favorable attitude toward work.
4. A "good" appearance.
5. The ability to take and follow directions.
6. The ability to manage time, energy and money; at work and home.
7. The ability to establish good relationships with employers and fellow workers.
8. Some basic knowledge and skills.

This is a partial list but in indicates not only what should be taught, but also the fact that we must know how to teach this information.

Another implication is that occupational teachers need to have an understanding and knowledge of the kinds of workers we find in the occupations for which we are training. Do we need more education in teaching students from different cultural backgrounds? Kenneth Rowe of Arizone State University, at the Institute for Home Economics Teacher Educators on Preparing Teachers for Occupational Programs held at Iowa State University this summer, helped clarify our thinking by asking whether students were being selected for vocational education programs on the basis of their ability to profit from such programs or on the basis of those with whom we can work.

The following topics for study, to be included in the education of potential occupation teachers, were suggested by state occupational home economics supervisors, teacher educators in other areas, and people in industry:

1. Understanding how to talk to business men.
2. Understanding the meaning of being "productive in work."
3. Understanding how to work with other agencies and groups.
4. Understanding how to become acquainted with community resources in particular fields; an example provided was that of housing authorities when teaching home furnishings, such as draperies.
5. Understanding how to develop an interest in research.
6. Understanding how to help teachers in transferring knowledge concepts into the "World of Work."
7. Understanding the levels of training and the terminology involved.

We would probably agree that we have only begun to get the help we need from industry.

The college home economics subject matter teachers are the experts in their fields, and they will be giving home economics teachers the background necessary for teaching homemaking and occupations. But before we approach these teachers for help in educating occupational teachers, we need to ask ourselves the following questions:

1. Do they understand the occupational program? Can we communicate?
2. Have they had any experience in the field of work?
3. Can we help them to relate the subject matter to the various occupations?
4. What have we, as teacher educators, done to make them aware of, or help them understand, the program?

Last spring we began a study of the subject matter courses now being taught at Purdue to find information which might be of value to home economics occupational teachers. Interviews with some of our home economics teachers were taped at this time.

Two institutional management professors, in regard to one course which many of our student teachers take, mentioned these major points as part of the course content:

1. Purchasing food in large quantities including specifications necessary to get food for the desired purpose.
2. Buying and maintaining equipment for quantity food service.
3. Maintaining high quality in food preparation in quantities.
4. How to cost a meal in charging at public eating places.
5. How to evaluate the employee's performance.
6. Experiences in setting up attractive and appealing food areas in cafeteria service including salads, desserts, and others.
7. How to meet the public in serving food.
8. Experiences in preparing and serving foods in four production areas: salad, vegetable, range and baking.
9. High sanitary standards.
10. Experiences in serving plates for waitresses, and also waitress experience.

This indicates that basic knowledge and skills in food service are being taught.

One professor in clothing and textiles mentioned the following points:

1. An understanding of today's fibers, yarns, weaves, and new finishes which could be used in occupations in retail sales, dry cleaning consultation, and others.
2. Merchandising or retailing
   a. Merchandising of textiles.
   b. Store organization and responsibility to consumer.
   c. Merchandising ready to wear.
   d. Arranging clothing and fabric displays in windows and otherwise.
3. Training models and presenting fashion shows.
4. Field trips to large department stores and merchandising marts.
5. Importance of a background in understanding construction as related to alterations, specialty shops and others.

In an occupational workshop at Purdue this summer, we listened to these taped interviews. Three recent Purdue graduates who had taken these courses reacted in an interesting manner. They were amazed at the wealth of information to which they had been exposed, which was of obvious value to occupational teachers. But, they said, when they had taken these courses, no relationship had been established between this information and its applications to teaching occupational home economics. Does this indicate that some of our subject matter courses are already including the knowledge and skills needed for occupational teachers, but not applying this knowledge to occupations?

This fall some of our student teachers continued this study. To gain information and to give student teachers an additional experience related to occupations, they were asked to interview other home economics teachers at Purdue. At these interviews, the student teachers first explained something about the occupational program and then asked these questions:

1. What do you teach in your class which would help future home economics teachers in training high school students or adults in jobs, such as (named according to the area)?
2. If you were on a committee to help prepare home economics teachers for occupational programs, would you recommend that:

a. Your class content be applied to teaching both homemaking and occupational home economics?
b. A new class be planned and offered?
c. Teachers obtain this information from some source other than college? And if so, where?

In answer to the first question, each teacher listed the areas she taught which would be applicable to teaching occupational home economics. And in reply to question two, all but one professor thought that the content taught in her class could be applied both to homemaking and to occupational home economics. However, several suggested that as the occupational program grew, new classes could be developed which would apply only to occupational home economics. Thus, a great amount of help and useful information are gained from talking to subject matter specialists, and it is encouraging to note that many expressed a sincere interest in this program.

Finally, a survey was sent to teachers in Indiana, West Virginia, Kansas, and South Carolina who are presently teaching home economics classes. One of the questions included in this survey was, "What topics or content would you recommend be included in subject matter home economics courses to help educate occupational teachers?" The responses follow. (No attempt has been made here to indicate which responses were suggested more than once.)

Foods areas

more emphasis on service of quantity cookery
sanitation
use of smaller commercial equipment, such as grill, french fryer
field trips to restaurants
careers in this area
waitress and waiter duties
legal aspects in food handling
terms used in food industry
safety
use and care of equipment
scope of food service industry
speed in food preparation and service
special techniques in preparing foods for restaurants
food terms used on menus (foreign and English)
a better understanding of menus

Child care area

child growth and development
purpose of nursery schools and day care centers
administration of day care centers
equipment and management of high school and private day care centers
legal and ethical responsibilities of teachers in this area
more on children with special behavior problems

Clothing area

alteration techniques
fitting of problem figure types
short cuts in construction
using equipment in factories (power sewing machines and steam pressers)
opportunity to work in a variety of different jobs
job opportunities in the field
construction of slip covers and draperies
simple flat pattern design
sewing and tailoring terms

Household area

familiarity of cleaning compounds and cleaning equipment
psychology of creating healthy job attitudes in household work
how to clean various types of floor coverings
cleaning schedules and organization
evaluation for cleaning materials
basic principles of housekeeping and housekeeping skills

Miscellaneous

facts important for applying for jobs in 1967

personality development
grooming for on the job
requirements of state vocational department on training students
business management, cash register, simplified bookkeeping
personal management and work
employment standards--criteria for selecting methods used for evaluating and advancing employees
actual work experience--even a few days
role playing
methods of meeting needs of divergent groups within a class, such as low I. Q. and low motivation
social security; income tax
preparation of teaching materials
human relations
public relations
employer's viewpoint of management and control
understanding the employees' viewpoint
internship for teachers in working in industry and business
how to team-teach with business education or business training in machines, etc.
communications as it relates to recruiting students and placement on the job
selecting, planning, and working with advisory committees
money management for employment
information on labor unions and labor laws
tolerance in working with and handling unusual people

One point stands out clearly: we do need teachers for occupational home economics. It is up to us to provide an education for home economics teachers. What are we going to do about preparing teachers, both homemaking and occupational? This too is a great responsibility and challenge. Since those people who have been involved in, or have observed, occupational programs are the most enthusiastic, perhaps we, as teacher educators and subject matter teachers, should have some actual experiences and involvement in an occupational program to help us better see the need for teachers. Time is running out. New programs are starting every day. Will we be able to staff them? Most important, what kinds of teachers do we want to see staffing our occupational home economics programs? It is frightening to realize that the task is up to us home economists and teacher educators, but we must admit that it is.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Patricia Smith*

Despite the fact that many home economics teachers who were trained under existing programs are teaching occupational courses, there is still a need to provide them with more and different types of experiences. There is a need to study and resolve the issue of transfer students from junior colleges to four-year institutions and what courses will or will not be acceptable. Some four-year colleges are introducing their own two-year programs. At both the junior and four-year college level, we must be careful not to develop only entry level types of occupational programs. Participants discussed how existing content material in home economics subject matter courses might be adapted for programs which prepare teachers for occupational areas.

In order to improve teacher education, the conferees suggested that surveys should be made of the job experiences which present students have already had and the implications for occupational training. A fresh look at other courses required of education majors might be appropriate. Everyone should be aware of legislation inacted or in progress, so that we know what funds are available for use and under which programs. State Directors of Vocational Education are now willing to set up State Councils for Teacher Education and we should be represented on these groups. Direct proposals for improving teacher education can be made to State Departments.

It was suggested that a seminar in Home Economics and Special Education be held for those in administration and teachers of occupational programs.

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NEW APPROACHES IN PROVIDING THE MAJOR FIELD SUBJECT CONTENT FOR VOCATIONAL TECHNICAL TEACHERS

Gordon G. McMahon*

When vocational education first seriously concerned itself with the problem of technical training, a broad definition of technician was advanced. To cover all of the vocational fields, or all of the "services" as we knew them, the definition included technicians in agriculture, business, distributive, home economics and trades and industries. Since the word technology became a by-word in our language, it has regularly been interpreted to suit the interest or bias of the person using it. Thus, the educators, jumping happily into a new area for their concern, chose to use the broadest possible definition of technology--and hence technician.

Those of us with trade and industrial education and technical education backgrounds find it impossible to accept a definition which places the agricultural mechanic on a plane with the medical or the electronics technician. We feel that the term technician had better be applied to that worker who stands between the tradesman and the engineer. We believe that in order to handle the technical problems of his field he must be able to use the mathematics and science directly and practically allied to his area of work. To be effective in his position, he must be skilled enough to communicate with the tradesman and familiar enough with the theory to be able to understand the engineer. The technician, then, occupies a peculiar and very special position.

Considering the very special nature of the technician's position, it is easy to understand why there was no existing program of education ready when the industrial expansion of the last twenty years created the tremendous demand of today. Unhappily, however, the same curious lag which has been evident in other areas of education has operated to prevent the establishment of any really broad-scale, effective program of technical education. As always, the problem turns upon the availability of well and properly trained teachers, without whom no institution will be able to produce properly trained technicians.

To meet the obvious demand for technicians, many of our states have adopted plans for technical education or have introduced individual programs without any really comprehensive study of the problem. Such a study may not be available for many years, but it is possible to isolate two central questions without delay. 1) What do we hope to produce in the way of a technician? And 2) What are the qualifications for a technical instructor?

Question number one will have to be answered by each of us who are engaged in the training of technicians, with our answers based upon our best judgment of what constitutes an adequate preparation for the work involved in any given technical area. Let us then consider the second problem--qualifications of the technical teacher.

The State of New York offers two programs of technical education aimed at employment in industry. In all major cities technical programs are offered in grades 10, 11, and 12. In addition, there are technical programs in the numerous community and agricultural and technical colleges. Oddly, however, two very distinct sets of criteria are used in the selection of teachers. Regulations of the Commissioner of Education require that teachers in the high school programs have a degree in engineering plus three years of industrial experience. But the college programs may be staffed according to decisions by the college presidents. Needless to say, the quality of the instruction and the caliber of the programs reflect the individual president's philosophy and understanding of those elements which are important in a technical program.

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It has been recognized by the central administration of our State University that there is a shortage of well-qualified instructors in this area. The units of State University which prepare teachers--Oswego included--have been directed to examine this need and in turn set up programs specifically designed to prepare technical instructors for the two-year colleges.

In preparation for our participation, we have concluded that an instructor must possess competence in his area of specialization and must have the ability to relate what he teaches to present industrial practice, in a practical way. Certainly, there is nothing startling in these conclusions; nothing, indeed, that we do not already require of trade teachers. However, there are implications here which have led us to believe that an engineering degree is not a prerequisite for the technical instructor, particularly since, in a very practical vein, there are not enough engineers interested in teaching to begin to fill the need. So we must look elsewhere.

We plan to initiate several different methods of identifying prospective teachers and these methods in themselves relfect the underlying philosophy of the program we project.

A. We hope to identify outstanding graduates of the two-year institutions in our state who will have completed 2-4 years of industrial experience since receiving their associate degrees. We hope to encourage some of these men to return to a campus program for the completion of a B. S. in technical education.

B. We hope to identify outstanding students in the two-year institutions who may be interested in moving directly to the Oswego campus to begin the course work necessary for completing a B. S. in technical education. It is our plan to incorporate a cooperative experience (in the appropriate technical area) of at least one calendar year in selected New York industries as a part of the degree program for the men with this background.

C. We plan to identify individuals as prospects for this program who may have had outstanding and somewhat unusual industrial or military experience but have little or no formal college preparation. In this situation, a curriculum will have to be specially designed to upgrade each individual in the areas of science and mathematics most appropriate to his area of technology. Special tests will be designed--in areas where they are not available--to determine the level of theoretical understanding that each individual possesses. Tests will also be constructed to determine whether each candidate has reached--through his previous experience--a satisfactory level of competence in the practice of certain manipulative phases of his technical area.

In those cases where it appears evident that more practical experience is necessary, a cooperative arrangement will be set up with a New York industry capable of providing that experience which seems most appropriate.

In those cases where a technique or method can be taught in a college laboratory an attempt will be made to provide this experience on the college campus. We anticipate that the individuals identified in this category will be most lacking in selected areas of science and mathematics but will be exceptionally strong in the application of such technical understanding as they have to a practical situation.

D. We hope to secure a selected number of students through transfer from other campus programs. We know that there are many students on our campus who are presently employed upon a part-time basis or who have previously been employed in technical or semi-technical positions.

We are convinced that careful screening and selection will provide some outstanding candidates from this category. Since many of these students may come to us with college credit, each candidate will have to be evaluated, tested, and advised upon an individual basis. The co-op technique may be a necessary tool for providing additional experiences and background for many of the people in this category.

It seems to those of us at Oswego who have studied this problem that the two elements or criteria identified as necessary qualifications of a good instructor point the way for certain innovations in the field of teacher preparation.

First, it's obvious that technical competence can be measured in specific occupational areas--particularly where mathematics and science represent the backbone of the technical area involved. We feel that certain levels of competence can be established as minimal for the future instructors in specific areas. If an individual has already reached this level at admission, further formal work will not be considered necessary. On the other hand, if he cannot meet minimum standards even after taking the prescribed course work, further study will be required.

Second, we feel that time spent "in industry" is not sufficient evidence in itself that an individual can apply his technical knowledge in a practical way. Therefore, when a cooperative program is a necessary part of an individual's formal training, a full-time coordinator will be employed by State University for every 20 students working under the cooperative arrangement. It will be the responsibility of the coordinator (who will be a member of the campus staff) to determine whether each student-employee is in fact carrying his weight in his assignment. The coordinator will also be required to ascertain whether the individual gets along well with other employees.

It is our opinion that each state will have to provide the initiative for setting up special programs that will provide technically competent instructors. The character of the program must quite naturally reflect the kind of industry within a particular state and it seems rather obvious that State A is not going to be as concerned about this problem for State B as State B will be.

I have attempted to suggest here that the problem of providing properly trained instructors for technical programs is serious but not without possible solutions. We need a sensible definition of technician as it applied to specific fields. From the definition of the desired end-product, we can arrive at a definition of the technical instructor--what he needs to know and understand if he is to produce the technician.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

James G. Bennett*

The Oswego unit of the State University of New York advised students who aspire to become technical teachers to take the following course of action.

To enroll in a community college technical program. This will insure his exposure to technical content courses. Oswego will take this community college technical graduate and provide him with the courses necessary to become a technical teacher.

Occupational experience of Co-op students is evaluated via testing and interview interrogation. A panel of three people make up the interview or review board. Tests are currently being developed by ECPD and Rutgers to measure technical competence.

Teacher training institutions are looking to the junior institutions for potential technical teacher candidates. This may influence these junior institutions to tailor technical courses to enhance transfer to senior teacher training schools. This procedure could also result in course improvement due to feedback.

Concerning the recruitment of technical teachers, the military was mentioned as a possible resource. It was noted, however, that technical backgrounds of military retirees are narrow, that these people are easily discouraged when confronted with teacher certification requirements and that they usually desire to start at the top.

Reference was made to the successful program of training military retirees at Pennsylvania State University.

Industry was cited as contributing to the development of technicians by supporting MDTA programs, providing industrial training, and by using liaison people to work directly with educational institutions. It was suggested that industry might become "part" of the school system by providing sound work-study programs. Also noted were cooperative institutes between industry and schools like the Oswego State programs with Ford, Chrysler and General Motors. GM Institute was cited as an example of an industry school.

Priority areas mentioned were a need to share information concerning new curricula, new methods and new problems. It was suggested that leadership conferences involving industry and educational institutions are useful in communicating needs and citing results of various hiring programs.

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COMPOUNDING A FORMULA FOR OCCUPATIONAL COMPETENCY

Carl J. Schaefer*

Melvin Barlow said in his paper presented at the May 23-27, 1966 National Invitational Research Planning Conference in Trade and Industrial Education, sponsored by The Ohio State Center that:

> It will be a long time before we give up the concept of "occupational experience" as a prime ingredient in the background of trade and industrial teachers. This is a foundation principle of trade and industrial education, and I believe that the idea behind the principle is sound and enduring. Our methods of interpreting will change, and change radically, but the principle itself will be retained... From the very beginning of trade and industrial education, the ideal teacher has been cast in the role of a master craftsman (Barlow, 1966, p. 182).

In fact, the report of this conference is replete with reference to the need for assurance of occupational, trade, subject matter, skill or call it what you will; competency in trade and industrial teachers. This in itself should not surprise anyone here. In fact, in every study made of T & I teacher education, and I certainly want to mention a few, the need for occupational competency has ranked uppermost in the findings. The long herald Walsh (1960) study of teacher competencies which found a high degree of agreement among teacher educators and local and state supervisors of trade and industrial education, suggested that teachers were rather well prepared in experience in the skills of their trade. Moeller (1961) found through interviews from representatives of labor and industry that: 1) well-defined competency levels such as the commonly held concept of journeyman status for trade occupations, should be established for the several broad areas served by the teachers of trade and industrial education, and 2) apprenticeship experience is essential for teaching the manipulative phases of trade occupations, but is not necessary for the theoretical or "related instruction" phase of an occupation. Further reinforcement stems from the Smith's remarks (1963) taken from his W. E. Upjohn Institute for Employment study when he states "...the usual teacher education courses required for vocational and technical teachers should be confined to those that are relevant. The teacher institution must make arrangements with industry to provide the trainee with the practical instruction and experience needed in his chosen occupational skill..."

Probably these findings reveal enough of the argument for occupationally competent trade and industrial teachers without going further. I must admit, however, there remains much to be accomplished in a true research sense in the validation of what constitutes occupational competency as well as to its relevance to specific types or levels of curriculums. I choose to say a word about each of these problems a little later. Nevertheless, most persons here in this room will concur with the wisdom attributed to Benjamin Franklin. "One can no more teach a subject he does not know, than return from a place he has not been."

It is, therefore, obvious that occupational competency or subject matter mastery is an essential, if not the most essential ingredient, in the make-up of a trade and industrial teacher. And please not I am punctuating the term Trade and Industrial which to me has a connotation or ring of a high skill nature. Indeed, it is involved in the preparation of manpower for the apprenticeable, journeyman, and craftsman ranks. In fact, I would go so far as to suggest that those in responsible leadership positions take a hard look at the definition of trade and industrial education, even as it is found in the AVA publication on definitions, and consider seriously its delimitation to the level of which I speak. When one considers this in light of the

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Vocational Act of 1963, the cluster or occupational mix concept and the emphasis that is being placed on occupational programs for the deprived and disadvantaged, it may be time to become more and more concerned in terms of the product trade and industrial education is turning out at the upper level of the skill hierarchy than to become embroiled in the total effort. For example, through a very fine mesh screening process (as specified by most Certification Requirements) we identify a really occupationally competent auto mechanic who eventually completes all certification requirements to become and identify himself as a teacher of future auto mechanics. Few here would attest as to the need for this skill if recently you have taken your car to the local garage. Yet, this same teacher--tuned, if you please, to the high occupational competency level finds himself teaching not auto mechanics as the course may well be called but a group of students who because of their various deprivations, including lack of motivation, can only and at the best be endowed with something less than the ability to ever achieve at an expert auto mechanic status and probably should be exposed to nothing more than a good service station attendant course. The result--a frustrated trade and industrial education teacher because he, himself never operated at this lower level and his high degree of skill cannot be, no matter how hard he tries, transferred to his students.

I guess my appeal here is to look hard at trade and industrial education in terms of its input and output and not be requiring occupational competency in our teachers that is not relevant to the real needs of a given body or group of the students. On the other hand, assuming that we can identify those students who can achieve and master the rigors of a high skill trade and industrial occupation, the relevance of the occupational competency of the teacher is indeed the backbone of success of the product turned out. Wouldn't it be encouraging to trade and industrial education if the skilled trades attested to the product turned out by our secondary and post-secondary programs and we represented the best source of truly advanced learners in any and all of the really highly skilled areas----that trade and industrial education provided by far the best source of bonafide apprentices and we ourselves felt the pride of knowing that our students were being sought after because of their training truly in terms of their ability to achieve at the highest skill level.

Undoubtedly, the acquiring of occupational competency or skill subject mastery contains at least three factors. I suggest it can be represented by the formula $(S \times k) + I = OC$. Where S is skill; skill of the innate kind, the desire and pride of wanting to work in a certain media along with its mastery in terms of techniques, tools, and equipment. The K factor represents knowledge; that which is related to the trade or occupation----Call it trade theory if you will, but it is the ingredient that makes for the understanding of and the ability to use skill to the uppermost. The product of Skill times Knowledge provides a basis of the formula but without adding I to this product it would be incomplete. Because I represents what I call Industrial Sophistication; the knowing first-hand about the inner workings of industry and having an intimacy with it. This factor, if not added to the formula for a trade and industrial teacher will enable our teachers to come directly from many sources, such as the military, school preparation, special institutes, etc., never having experienced a day within industrial environment. One need but look at the traditional track of preparing trade and industrial teachers to see the relevance of the Industrial Sophistication factor. The equation when solved, through research and study would provide the exact proportions for the making of an occupational competent teacher for trade and industrial education.

What has been said up to this point, hopefully builds a case for the maximum utilization of occupational competency teacher needs. How such occupational competency is acquired supposedly was the assignment of this paper. I would submit a more appropriate question would be how occupational competency can be validated or established beyond a doubt. Nevertheless, the process of its acquisition, if logically acquired, I am sure most of you would agree could serve in this validation process. Little needs to be said to describe the traditional X number of years route. Much could be said about the shortcomings of such a requirement in terms of experience since experience in itself can mean many things. More can be said in favor of some different and additional approaches to the preparing of occupationally competent trade and industrial teachers:[1]

1. Might well be recruitment from the armed forces. Only recently when observing a group of newly hired in-service teachers being subjected to an orientation week program, I noted two individuals out of approximately thirty who were joining the ranks of T & I teachers and who had recently retired from the armed forces. These men were in their middle age, well appearing (meaning no middle age spread) and vigorous. One was going to teach electronics and

[1]These are not listed in any order of priority.

the other data processing. Hopefully, the Industrial Sophistication factor was not missing from their formula but I bet both are skill competent in a true sense of the word. Therefore, the armed forces types should not be overlooked. In fact, how many and what variety could be recruited from this source if a one-year program upon retirement could be established whereby they would receive the Industrial Sophistication factor as well as some pedagogy. I can think of no better way of using stipends for such a venture.

2. The cooperative track is being heard from more and more in preparing T & I teachers in the Skill factor and I might add Industrial Sophistication. Here control is assured in providing breadth type skill training through the cooperation of an employer. Moreover, it has the advantage of feeding in to our teacher education supply a more youthful individual who by reason of this alone stands to contribute more to the total career field.

3. The idea of joint use of industrial and educational facilities is already being implemented. The University of Tennessee and the Oak Ridge Y-12 Plant as described by Reed (1966) have launched into a joint sponsorship which combines the use of facilities and personnel of industry and education in preparing T & I teachers. The plan is to select individuals with sufficient industrial and educational background that will enable them to complete a bachelor's or master's degree in two years and at the same time acquire enough additional skill training in the Y-12 Plant to meet vocational certification requirements for teaching.

4. The recognition of occupational competency of technical institute and four-year college graduates in terms of the time they spend in shops and laboratories related to the occupation in which they claim proficiency is growing in popularity. This might well cut down appreciably some of the years presently required by most certification. Let's not forget also, that time spent by some of our students in secondary school programs should be relevant.

5. Personally, I'd like to see some institution or State Department place the emphasis on occupational competency not in terms of years of experience but in terms of ascertaining that competency regardless of how the individual acquired it. Naturally here the criteria for establishing occupational competency would be paramount but when it comes right down to it, the important thing is that indeed the individual is competent regardless of its acquisition.

Woven through all of these and especially the last notion is that occupational competency comes by various and sometimes dubious routes. In some it is represented by X years of experience. In others, a formal program of preparation (and I might add here that not long ago I asked some seventy teachers from one of our large vocational schools how many completed bonafide apprenticeships and received a response of two) and in others it may well represent an avocation, the result of military training, or just plain stealing of a trade. The important thing is to ascertain whether or not the mastery is indeed evident. For far too long we have not--as a discreet area of education, called trade and industrial faced up to this problem. Some states (and more power to them) have struggled to hold on to testing programs of occupational competency for certification and other purposes. It will interest you to know, that many states feel that we must find a way of assuring mastery of the content one professes to teach and hopefully we will form together in a consortium to assure valid and reliable ways of so measuring this. In fact, the National Teacher Examination concept, which is already operating in many subject areas, could do a lot to raise both the prestige and confidence of trade and industrial teachers themselves.

I for one would rather do a singularly small job well in terms of turning out high skilled manpower than to turn out large numbers of students who cannot meet the specifications and requirements of the occupation. I for one, am willing to leave to others the development of teachers to staff programs of a cluster nature that have as their immediate objective something other than Skill development and to have it called something different than trade and industrial education.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Ray Reisenger*

The resource person posed several questions for discussion by the group. Among them were: Should the T & I teacher attempt to meet the occupational training needs of the disadvantaged and the people with special needs? Can this be done simultaneously while teaching a high level of skills? What methodology and teacher preparation should be considered for the T & I teachers of the disadvantaged?

The problems which are involved in attempting to do the total job from service level occupations on up to the highly skilled trades were acknowledged. Questions involving these problems elicited positive responses from the discussion group. Several methods for handling the problem were cited.

One method given was the "cluster concept." A broadened range of abilities within each T & I program was reported to be served utilizing this concept. The concept enables students of limited abilities to be taught entry-level skills in the same class with the potential craftsman. Ability grouping was described as a technique also worth considering. In this structure, homogeneous grouping makes it possible to meet the needs of the disadvantaged, the slow learner and people with special problems. It was suggested that the teacher and the class which he is teaching should be carefully matched. In other words the teacher's background and preparation should be closely correlated with the objectives of each class he teaches.

Several suggestions were made which could keep T & I teachers abreast of technological and sociological changes and needs. These included:

1. In-service education programs.
2. Summer work experience required or encouraged.
3. College credit and salary improvement for summer work experience, workshops, and institutes.

The group explored supervised work experience as a possible method to increase the supply of T & I teachers. It was suggested that federal and state financial assistance may be needed to finance cooperative work experience programs. Scholarships, stipends and other aid may be needed to attract potential T & I teachers into these programs as they develop supervised work experience patterns.

At no point was there any indication that the group wished to waive work experience as a foundational requirement for T & I teaching. It was unanimously agreed that occupational competence was essential in the selection and preparation of teacher trainees.

The problem of working with a broader range of students, improving the input which T & I teachers can make in all classes through different approaches to preparing teachers, and maintaning the integrity of T & I programs were topics of vital concern in the discussion group.

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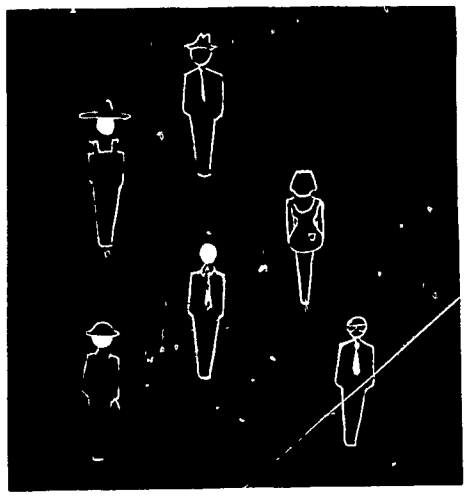

AN APPROACH TO PROVIDING VOCATIONAL TEACHERS WITH EXPERIENCE IN THE OCCUPATIONS THEY TEACH

AN APPROACH TO PROVIDING VOCATIONAL TEACHERS WITH EXPERIENCE IN THE OCCUPATIONS THEY TEACH

Warren G. Meyer*

Whenever I think of criteria and standards of "occupational experience" for vocational teachers, I recall the astute remarks of one of the greatest vocational teacher-coordinators I have ever known, the late Mrs. Flora Taylor Young of Wichita (Kansas) High School East, who began her distributive education career at the age of 67, after some 25 years of employment in personnel work on Chicago's State Street. This diminutive little Irish lady said, "When a person applying for a job at our store told me that he had ten years of retail experience, I'd look him square between the eyes and say, 'Young man, do you have ten years of retail experience or one year of experience ten times over?'"

Mrs. Young's remarks strike at the very core of a vocational teacher education problem that concerns all of us during these times when program evaluation occupies the spotlight. They stimulate a chain of questions concerning the value and nature of "trade experience," a term which I have borrowed from some of my trade and industrial education friends. Here are a few of the questions.

First, why do state plans for vocational education invariably include trade experience among certification requirements of various vocational education personnel? Supposedly, trade experience is a criterion of certain abilities deemed essential to good teaching, counseling, coordination and administration by those who prepare state plans. This idea has been accepted without question in several of the vocational education divisions.

Second, assuming the validity of the trade experience criterion, exactly how does experience in the occupation taught contribute to quality vocational education? What are the educational values a vocational educator should derive from occupational experience that can be put to good use in a learning environment? Furthermore, are these values the same as those of 1917, or 1936, or 1947, or even 1963, or should we direct our attention to a changed occupational environment?

Third, what are the criteria for evaluating the occupational experiences of candidates for teacher certification? Quantity? Occupational level? Variety? Recency? Size and reputation of the employing firm? Understanding of current relationships of workers to their work? (Surveys of certification requirements and opinions of leaders about teacher qualifications reveal a variety of criteria and a wide range of standards.)

Fourth, is the value of trade experience of equal importance to instruction in all of the recognized vocational educational fields--agricultural education, business and office education, distributive education, home economics education, education for the health occupations, technical education, trade and industrial occupations, and to education for youth with special needs or those participating in various work experience programs? Also, does <u>each</u> occupation within a vocational field call for the same amount and quality of occupational experience. For example, does real estate sales require the same amount of occupational experience as supermarket operation? Is department store experience adequate for teaching supermarket jobs? Should the same criteria be used in evaluating the trade experience of a preparatory high school teacher as are applied to a post-high school specialist program teacher?

Fifth, does the occupational experience requirement that is super-imposed on other certification requirements, such as content, and general ar special professional

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education courses, restrict the number of persons preparing to be vocational teachers? If so, are there more efficient and effective ways of providing it?

Finally, assuming the need for experience in the occupational field taught, what types of activities should be included in planning a students program, both on the job and in school? What should the prospective teacher learn about technical competencies, occupational adjustment, career images, self actualization through work, and so on. Obviously, I do not have the answers to these questions.

The last question in particular attracted our attention and stimulated us to apply to the U. S. Office of Education for funds to carry out a project titled, "Pilot Training Project Based on Directed Occupational Experience for Teachers of Marketing and Distribution." Each of our three full-time distributive teacher education staff members, Dr. Richard Ashmun, Miss Mary Klaurens, and I, had been engaged in curriculum development projects during the past several years and was particularly interested in pursuing the occupational adjustment and career development aspects of secondary and post-secondary distributive education curriculums. I had often wished that I could turn back the clock and repeat my distributive occupational experience so that I might understand what was really happening to me.

PURPOSES OF "TRADE EXPERIENCE"

My main purpose in speaking to you today is to relate some of the important findings of our pilot teacher training project so that, hopefully, you can select from them those ideas and practices which have value in your teacher education programs back home. In presenting this information, I am aware of the differences among vocational fields, in sources of prospective teachers, in the types of teacher education programs, and in the patterns of teacher education among the states. These differences were recognized by the President's Panel of Consultants on Vocational Education and were briefly described in the report titled, Education for a Changing World of Work (1963). Thus to quote the Panel:

> The training of agricultural and home economics teachers, and to a considerable extent of teachers of distributive education, generally has been accomplished through baccalaureate programs that combine a broad base of occupational content with appropriate professional education..... The training of teachers of trade and industrial education and for technical education has followed a somewhat different pattern. The requirement of extensive occupational experience, and the great diversity of fields for which training programs are offered, has necessitated the recruitment of persons with adequate occupational experience, who work as teachers with relatively little pre-employment professional training. ....Teachers of practical nursing have been recruited from the ranks of registered nurses and given the needed teacher education. (page 168)

Business and office occupations teacher preparation is nearly always accomplished through a baccalaureate program. In addition to these similarities and differences, it may be well to keep in mind the characteristics of the occupational clusters in Gagne's (1966) continuum from hardware to people--mechanical, electrical, spacial, biological-chemical, symbolic and people. Each vocational field and teacher education institution has a history which must also be considered in planning an occupational experience program for teachers.

Recent literature on occupational experience for teachers is sparce. A large segment of the published information emanated from trade and industrial and from technical education. Studies relating to distributive education and to the education of youth with special needs are beginning to appear. Dominance of the literature on this subject by the mechanically, electrically and spacially oriented fields may be an indication of the influence of these fields on state plan certification requirements for vocational teachers:

1. To enable the teacher to learn the technical competencies and apply them in an occupational situation for better teaching in the classroom, laboratory and shop.

2. To enable the teacher to gain the confidence and support of business and industrial personnel, and of students and school personnel.

3. To provide the teacher with self-confidence in dealing with school, business and industrial personnel and with students and parents.

4. To aid the teacher in acquiring an appreciation of the problems of beginning workers in adjusting to the total work environment and of the problems of supervisors and employers relating to new workers.

5. To facilitate the teacher's formulation of realistic occupational images and concepts of career opportunities.

6. To strengthen community-school relationships.

Perhaps you noticed a progression in these groups of purposes.

IDENTIFICATION OF PURPOSES

It seems reasonable to assume that the amount and nature of occupational experience needed to carry out a given teaching, counseling, coordination or administrative assignment varies widely with the nature of that assignment. Much depends on the objectives of the particular vocational program. If the objectives are almost entirely centered in providing technical skills and knowledges and the occupation for which the students are training is limited in this dimension, we can conclude that not much occupational experience is necessary. Too many schools today limit their instruction to this group of purposes.

Suppose that a school wishes to carry vocational instruction a step further and place its graduates. Suppose that it would like to have an advisory committee to help solve selection, curriculum and placement problems. What additional occupational experience, if any, should the teachers have to perform effectively?

Next, let's add student adjustment to the occupational environment as an objective and let's assume that a cooperative occupational education program is to be installed. What additional facets of occupational experience, if any, would you attach to the requirements of the teacher-coordinator?

Again, let's assume that your school wants to go all the way in providing a well-rounded vocational program. Let's suppose that it is concerned with students long after their graduation and it is sincerely interested in helping them plan careers, prepare for them and adjust to the occupational field of their choice. Let's suppose that the school is interested in advancement of students in a well-chosen career. Do these objectives affect occupational experience needs of teachers?

Lastly, let's assume that your school wants to do its part in serving the vocational needs of all people who need, want and can profit from instruction and perhaps some who do not realize that they need it. How does this change the pattern of occupational experience needed by teachers, coordinators and counselors?

Obviously, the amount and type of occupational experience needed by personnel in various vocational positions stems from the demands of their responsibilities rather than from some arbitrary standard. One, two, three, four or five years of supposedly bona fide experience is not a reasonable standard for any vocational field, although any of these standards is likely to be better than none. Perhaps the day will come when vocational teachers will recognize and appreciate the values of occupational experience and accept the responsibility for acquiring it without pressure of any kind. Our experience in the summer of 1966 would lead us to believe that this is not fantasy.

OCCUPATIONAL PERSISTENCE

As distributive educators we face certain problems, some of which are unique to our field and some of which we share with other vocational educators. Frankly, one of our greatest problems, as I see it, is persistence of those we train in distributive occupations. How severe this problem really is, I'm not certain because research follow-up studies provide a variety of answers. Anyway, we are not satisfied with the job we are doing and we are seeking better ways of achieving selective retention.

Our task is to identify people who can make realistic choices of careers in distribution and provide these people with educational programs that will prepare them to enter into, adjust to, and succeed in their chosen field. We in distributive education have given much attention to improving the teaching of technical skills and knowledges of our field and to the discipline of marketing. We have dealt quite well

with the applications of the fundamental skills and have strived to develop personal-social competencies. We have also placed some emphasis on economic understandings. In short, we have done all within our power to make the worker satisfactory to an employer. But is this enough to achieve reasonable longevity in today's labor market or enough in the markets of the future? Perhaps not.

THE CHANGING WORK ENVIRONMENT

During the past decade, much progress has been made in the behavioral sciences. This new knowledge is being studied and synthesized by professional people in industrial relations centers and leaders of the National Vocational Guidance Association. Sophisticated professionals are now thinking of both sides of the productivity coin--the needs and satisfactions of workers as well as the ability requirements of jobs. A theory of work adjustment has evolved. This concept is being assimilated and implemented by leaders of business, industry and labor as well as by educators. In regard to management, allow me to support my claim with quotations from What's Wrong with Work? (1967) published by the National Association of Manufacturers. John Paul Jones, Vice President of Federated Department Stores, said:

> Slavery, serfdom, bonded servitude, bureaucracy, scientific management, are all social inventions aimed at relating people to work. The inventors of these systems thought little of human values, but then, man himself was not as concerned with human values as he is today.

Mr. Jones goes on to describe "organization development," man's latest effort to define his relationship with his work-oriented organizations:

> Organization development strategies are based on value systems which are unique to our time, ...They are congruent with our increasing understanding of man's needs and the relationship between work systems and man's basic inherent drive for a sense of dignity, self-worth, self-actualization, and participation in shaping his own future.

In the same publication, Wareen Bennis of M. I. T. said:

> ....what we are witnessing .... is a search for new forms of social architecture....older forms, like the pyramidal-heirarchical organization really aren't adequate.... Most of the organizational forms we have lived and worked in were developed for the industrial revolution, when man's major task was to harness muscle power to produce, to manufacture.

Professor Bennis also made some interesting predictions regarding youth roles:

> I think it is inevitable that more and more of the social organizations that we work and live in will become democratic. Where the rules and values change quickly, it will be the young, the subordinates who will have the information, the know-how, the techniques to solve the problems. ...where there are many, many changes and they happen rapidly, I think youth is in a better position to understand them, and that in such a society, democracy is inevitable.

Our feeling was that many of us distributive educators were not abreast of new developments in the relationship between man and his work and that much current occupational experience obtained by our teachers is obsolete at the time it is acquired because it takes place in a work environment which has not kept pace with this rapid change.

OBJECTIVES OF THE REPORT

During the planning stage of Phase I of the project we received much help from Dr. W. Wesley Tennyson, a member of our counselor education staff who is president of N.V.G.A. Because of his efforts, I had attended the N.V.G.A. Arlie House Conference on Implementing Career Development Theory and Research Through Curriculum (1966) which augmented a realization of vocational education enrichment potential through associations with this professional group. Our staff, in cooperation with Dr. Tennyson, developed the following objectives:

1. To explore the values of directed occupational experience and observation for distributive education teachers and to establish guidelines for operating an occupational experience program.

2. To help teachers and teacher-coordinators develop competency in content selection, planning on-the-job experiences of student trainees, couseling and placing students, upgrading training-sponsor activities, and helping student-trainees reality test occupational stereotypes.

3. To prepare sets of occupationally oriented learning activities for high school preparatory, high school cooperative and post-high school distributive education classes.

It was assumed that the occupational experience requirement for teachers and teacher-coordinators was essential to sound vocational instruction and coordination work. The underlying purposes of the study were to contribute information relating to three problems: 1) Assessing the quality of occupational experience in terms of its contribution to teaching, guidance and coordination; 2) reducing the length of time needed for prospective distributive educators to acquire both educational and occupational preparation; 3) helping in-service distributive educators keep abreast of rapid changes in distribution and the distributive occupations work environments. In summary, our primary concern was to identify practices and procedures that might result in the more effective and efficient development of occupationally oriented competencies. Our secondary concerns were to help the participants improve their teaching, guidance and coordination abilities and to prepare materials for use by other teachers and teacher-coordinators.

PROCEDURE

Participants: The participants were 30 Upper Mid-West distributive education teachers and teacher-coordinators. Ten taught high school preemployment classes; ten were high school teacher-coordinators; ten were post-high school instructors and coordinators in area technical schools and junior colleges. They were selected by the project staff from applicants recommended by state supervisors and teacher educators in North Dakota, South Dakota, Iowa, Wisconsin and Minnesota.

Advisory Committee: An advisory committee representing various kinds of Twin City distributive business met with the project staff to determine suitable training stations for the participants. Wholesale and service establishments were included in their recommendations and in some cases advisory committee members prepared the way for initial staff contacts.

Planning of Occupational Experiences: Through contacts by mail, appointments with executive officers of the firms were made during the six weeks prior to the arrival of the participants. Actual scheduling was done with operating managers. A suggested plan of experiences that was generally applicable was given to the person responsible for determining what the participant would be doing during the eight-day period. He was also given several copies of a form for scheduling specific assignments and designating the individuals in the firm who would direct the experiences.

Scheduling of Pilot Training Program: The training period covered six weeks. The first week was devoted to orienting and preparing the participants for their responsibilities of observation, interview, job analysis and preparation of teaching materials and learning activities. The preparation included the use of speakers from distributive firms, the Minnesota Employment Service, the University of Minnesota Industrial Relations Center, the Counselor Education Program, the U. S. Office of Education, and the Industrial Education Department.

Each participant received two eight-day directed occupational experiences in two different distributive businesses. He was placed in areas of distribution which, in the staff's judgment, would contribute most to his personal development as a distributive education teacher. Participants spent four successive days per week (approximately eight hours per day) at an assigned training station studying the occupations, employment qualifications, career opportunities, duties, needed competencies, job satisfactions, interpersonal relations, etcetera to determine what should be taught in the classroom and to identify problems of work adjustment facing young workers.

The four-day occupational experience was followed by one day (approximately six hours) in which participants met in seminar groups at the University to define objectives and identify content. Thus, participants received 30 hours of preparation and instruction, 128 hours of directed occupational experience and 54 hours of directed seminar work, including five days at the end of the training program to develop materials and evaluate the experience.

Coordination of Occupational Experience: A member of the project staff visited each training station at least once during the participant's tenure. There were no problems

in getting the firms to provide the agreed-upon training. Reactions to the participants were favorable and personnel seemed to accept the idea of "educating" teachers with enthusiasm. Following the participant's tenure the cooperating firms were visited by a staff member and asked to evaluate the program and make suggestions for future projects.

Directed Observation Assignments: There were several built-in techniques of direct observations to focus the participant's attention on certain aspects of the job situation. During the orientation period, instruction was given in how to analyze a work situation, what to observe, and how to record the information. Participants were made aware of the psychological and socialogical factors of work adjustment as well as the technical performance requirements. The following written assignments were given:

1. Critical Incidents (two per day)
2. Job Identification Facts (one for each of the two training stations)
3. Sales Job Description Checklist (two jobs)
4. Worker Needs and Satisfaction Card Sort (two workers)
5. Worker Personal Interview Form (two)
6. Narrative Job Description (two)
7. Learning Activities for Classroom Instruction
8. Case Problems
9. Project for Preemployment Student or an On-the-Job Training Plan

These written assignments served several purposes:

1. They required the participants to ask questions and to look for significant information.
2. They gave the observers a common way of organizing information that could be communicated to other participants in the project during seminar sessions.
3. They provided information which could later be used to derive instruction for distributive education and to develop instructional materials.
4. They gave the participants some practice in using learning methods which they could use with their student-trainees in the study of occupations.
5. They served as evidence for evaluating the project as a means for preparing teachers and deriving instructional content and materials.

The seminar sessions on Fridays gave the participants an opportunity to discuss their impressions and to find out the extent to which their findings were generalizable to other work situations. The members felt responsible to the seminar group for sharing their experiences and therefore were looking for things during their observation time that would be of interest to the seminar group. Through the seminar, the members agreed on what competencies should be developed through instruction and explored methods of developing these competencies. Then individual members were designated to prepare the learning activities in a written form that could be used by teachers.

Methods of Evaluation: The specific goals of this project required a number of measures and evaluative techniques which may be grouped under evaluation of changes in the participants, evaluation of the materials produced, and evaluation of program procedures.

Evaluation of Changes in Participants:

1. Minnesota Employment Attitude Questionnaire given prior to and six months after the training program. Comparison with control group.
2. Marketing Functions Test given prior to and six months after training program. Comparison with control group.
3. Follow-up observation and interviews with participants six months after training program in their home schools to check on applications of learnings.
4. Inventory of instructional content in home school used before the training program and changes contemplated after training program using National Association of Business Teacher Education Study Inventory.
5. N.S.S.S.E. Evaluative Criteria, Section D-5 self evaluation prior to and six months after training program.
6. Comparison of participants' perceptions of job satisfactions with those of workers whom the contacted during directed observation assignment using Minnesota Employment Attitude Questionnaire with card sort.

Evaluation of Materials Produced:

Project staff members, two teacher educators and one state supervisor evaluated the instructional materials developed during the project.

Evaluation of the Project Procedures, Content and Outcomes:

1. Participant evaluation of various facets of project and to project as a whole by questionnaire.
2. Follow-up interviews with employers of the cooperating firms to obtain evaluation and suggestions.

CONCLUSIONS AND RECOMMENDATIONS

A complete copy of the conclusions and recommendations for Phase I of the project is in your hands for later study. Time does not permit much discussion, however, I would like to call your attention to some of the more important findings:

1. Proper orientation of the participants is crucial to the development of the desired outcome.
2. A definite structure and procedure for observing, gathering, and recording information about workers and their jobs is necessary.
3. An advisory committee representing the occupational spectrum of the vocational field is highly recommended.
4. Participants should be placed in firms that can provide experiences which complement their backgrounds.
5. Each participant should have experience in more than one training establishment.
6. Participants should be provided forms and methods for reporting data such as critical incidents reports, job analysis forms, and interview questionnaires.
7. In most cases, eight full days of planned activities is sufficient to acquire a reasonable understanding of the firm's operation and to study the occupations.
8. One-day-a-week seminars are necessary to resolve job problems and maintain progress toward the program objectives. Monday may be a better day than Friday for seminars.
9. Three to five days are needed at the end of the project to complete the production of teaching, coordination and guidance materials.
10. A follow-up visit by a staff member to the participants school is highly desirable.
11. More reliable and valid instruments are needed to measure outcomes.
12. At this time the best evidence that teachers have changed their behavior as a result of the project are his self-evaluation, the observation of his practices, and evidence that the program is meeting the needs of the community.

As a concluding remark concerning Phase I of the project, we are convinced that the involvement of personnel from other disciplines such as industrial relations, guidance, psychology, sociology and economics, is essential to the growth and development of occupational experience programs.

PHASE II

During the summer of 1967 the same group of participants, with a few exceptions, returned to the campus to further implement what they had learned in Phase I, the concentration being on career development and occupational adjustment. During a five-week period, the participants, with the help of our counselor education personnel, engaged in developing a model for occupational counseling. This experience resulted in a marked adjustment of role perception on the part of both the counselor educators and distributive teachers and teacher-coordinators. A demonstration class of 1967 high school graduates served as a laboratory to try out counseling and teaching techniques. Video-taped demonstrations provided an excellent instructional medium. Sensitivity training using three T. groups was a valuable aspect of the program. This sequel to the occupational experience program served as an appropriate capstone to participants' learning experiences. It proved to be very popular with the participants.

HOW DUNWOODY INVESTS IN STAFF IMPROVEMENT

John A. Butler*

Most of the teachers and instructors that I have known wanted to improve their performance in the classroom, lab, and shop. They were anxious to acquire new skills, greater technical knowledge, and more understanding of professional and effective methods. They wanted suggestions and help in going about getting better educated and more proficient through schooling and work in industry.

Not only were they interested and willing but their department heads and officials at our school felt it was absolutely essential that a plan be devised and promoted which would insure them such opportunities for growth and upgrading over a period of years. The program that has been in effect at Dunwoody for fifteen years now embodies these basic features:

1. All members of the staff are employed for twelve months--July 1 through June 30 each year.
2. The regular Day program at Dunwoody operates on a school year of 10 four-week training periods. The school year commences about September 5 (after Labor Day) and completes near the middle of June.
3. A summer close-down period of 10 or 11 weeks is in effect each summer for the regular courses. Some special, industry and international programs continue through part of the summer.
4. All members of the staff have a vacation entitlement of four weeks in their fourth year of employment and thereafter. New instructors have a vacation of two weeks, for first and second year, and three weeks the third year. Vacations are usually scheduled in July for the majority of the staff.
5. The remaining weeks of the summer close-down period (six or seven weeks for most of the staff) are planned and scheduled in staff improvement and program development activities.
6. In addition to the four weeks (or less) of time off for vacation the school allows an additional period of four weeks for schooling or employment in industry. The schooling may be in professional courses at a university or college as agreed by the instructor, his department head, and the director or in courses, seminars, clinics, or special training arranged in industry. Some of this education may be for college credit and other not. When the instructor goes out of town for schooling at college his tuition is paid and he receives $50 per week in addition to his regular salary. He usually carries two or more courses per day. When he goes to another city for industry schools or special training his fees, travel, and living expenses may be fully paid. If the schooling requires more than a four-week period he may use one week of his vacation time to attend.
7. A fellowship arrangement with the University of Minnesota, which has been in effect for many years, provides for students from the Industrial Education Division of the University to attend Dunwoody shop and lab courses with no fee and Dunwoody instructors to take professional education courses at the University late afternoons during the year or for summer sessions with no tuition. This reciprocal arrangement has served the interests of both institutions very well and has resulted in close cooperation and mutual respect.
8. During the school year Dunwoody will pay tuition for five credits in the Institute of Technology, University of Minnesota or in other colleges in the area. Generally these courses are late afternoon or evening extension.
9. Industry employment in selected companies and areas of experience are arranged for four weeks during the summer, (sometimes one or two weeks of vacation time is also used) again by prior agreement of the instructor,

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department head, and director. This is intended to provide opportunities to learn new technical knowledge, work with new machines, and processes, or engage in activities different from previous occupational and trade experiences. School officials may need to make contacts or arrange for placement through personnel directors, company officials, or union representatives. The instructor, if paid a wage or salary, is permitted to retain his summer industry earnings in addition to his salary from the school. In some cases, only a token wage may be paid and in other instances the regular hourly scale may be earned or a monthly salary agreed upon even exceeding his school salary for the same period. If the instructor goes out of town to work he may be paid traveling expenses and $50 per week depending on earnings on the job.

A complete report of employment experiences, special assignments, and earnings is submitted for school records.

10. Members of the staff who do not go to school or work in industry during a summer plan a schedule of work in their departments for six, seven, or more weeks when they are not on vacation. They bring to the development of their courses the knowledge and new skills or techniques learned in school or in industry and revise, update, upgrade, and prepare instructional materials, build job boards, construct teaching devices, repair equipment, install equipment, rearrange shops and labs, assist other departments in improving facilities, and otherwise work in developing and improving the program of instruction for which they have responsibility.
11. This plan of annual employment and scheduled schooling, industry employment, and departmental and course improvement and development seems an essential practice to keep pace with the rapid changes and technological advances faced by teachers in industrial and technical education. Our Board of Trustees have been very willing to provide a budget for this purpose each year. When the plan was proposed--and they were told how readily we spend substantial sums to repair machines or replace parts, tools, and instruments that have become worn or obsolete in the shops or labs--they quickly agreed that members of the staff can easily become just as obsolete or in need of repairs.

Our staff has been enthusiastic about this rotating three-year plan of staff improvement and program development.

The investment has been exceedingly worthwhile in giving our staff experiences, confidence, prestige, and fine relationship with industry and education in our region. Many good placement spots for graduates have resulted.

Together with other arrangements throughout the year for keeping our staff members in contact and abreast of technical, industrial and craft advancements, we feel that such an incentive program has encouraged and motivated them to keep alert, to grow, and to perform to their own and the institutes advantage.

Industry does not hesitate to invest in training and development of its personnel. Why should we do less in the all important business of industrial and technical education where the teachers and instructors are the key men of this vital enterprise?

THE AMERICAN VOCATIONAL ASSOCIATION

Floyd Johnson*

I am delighted to be here today and have an opportunity to participate in this seminar on teacher education.

First, allow me to bring you greetings from the American Vocational Association, especially from the AVA Board and Staff.

AVA feels that those of you in teacher education have contributed greatly to the success that programs in vocational-technical and practical arts education has attained through the years.

Regarding the position of AVA and our efforts in teacher education, I think it would be well for us to refer to resolution number eight as published in the February issue of the AVA Journal. In part, the resolution states, "therefore, be it resolved that the AVA urge the 90th Congress to enact amendments to the Vocational Education Act of 1963 (P. L. 88-210) and to support other legislation which would authorize funds for a program of scholarships, fellowships and educational stipends, to programs of internship and in-service training of vocational education personnel; and that such scholarships, fellowships, stipends and internships be made available at graduate and undergraduate levels and to pre-service and in-service teachers, teacher aides and assistants; coordinators, supervisors, and administrators; consultants and specialists in research, curriculum, evaluation, facilities and equipment, and personnel engaged in other aspects of vocational, technical and practical arts education."

To further review the actions of AVA in support of teacher education, you should secure a copy of the hearings before the General Subcommittee on Education to amend P. L. 88-210, and I would like to call your specific attention to the testimony of Dr. Rupert Evans on page 496 of the committee hearings. Also, you should review the provisions contained in the current bill to amend P. L. 88-210 which is still in Congressman Pucinski's General Subcommittee on Education. Time does not permit further actions of AVA in support of teacher education programs. However, an attempt will be made to answer any questions you might have during later discussions today.

At this time, I would like to briefly discuss with you what has been and is going on in South Carolina to train vocational teachers in the occupational areas. In a few cases, I might discuss with you some future plans for training vocational teachers. No attempt will be made to evaluate the South Carolina vocational education teacher training programs. Each field will be discussed briefly.

AGRICULTURAL EDUCATION

In-service workshops have been conducted in ornamental horticulture, farm mechanics, forestry, and agricultural sales and services. The workshops in agricultural sales and services have been conducted in cooperation with appropriate distributive education leaders. Instructional materials for the areas mentioned have been developed for use by the teachers.

Efforts are now being devoted to a pre-service planned summer work experience program for students in the various occupational areas in the field of agriculture.

I think it well to mention at this point that South Carolina has an excellent program in operation concerning the recruitment of desirable young people upon graduation from high school to enter professional careers in agriculture--with emphasis being

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placed upon the selection of agricultural teaching as a career choice. This program is the outgrowth of the work done by the AVA Agricultural Division Professional Personnel Recruitment Committee. Similar work is going on in some forty states throughout the nation as a result of the fine work being done by the very active AVA Agricultural Division of Professional Personnel Recruitment Committee. Other AVA divisions might want to consider the appointment of such a committee.

BUSINESS AND OFFICE OCCUPATIONS EDUCATION

South Carolina does not have a reimbursable teacher education training program for business and office occupations vocational teachers at present. The business and office occupations vocational education program has been in operation only about two years in South Carolina. The state does have a number of "baccalaureate degree" programs for regular high school commercial teachers. A budget request has been approved to start a teacher training program for vocational teachers in business and office occupations education in South Carolina during the next fiscal year.

To date only a limited upgrading in-service occupational training program has been provided for vocational teachers in the business and office occupational education field.

DISTRIBUTIVE EDUCATION

Teacher education in distributive education was inaugurated in South Carolina September 1, 1966.

Prior to September 1, 1966, pre-service teacher education was accomplished through the use of visiting instructors during summer school or by employment of teachers trained in other states. Although this approach represented an important contribution to the pre-service education of teachers, only 34 of 65 teachers had completed a ' lied techniques courses in distributive education as of September 1, 1966.

Through campus and extension courses during the fall and spring terms of 1966-1967, an additional 21 teachers enrolled in applied techniques courses. A similar pattern planned for the current school year will make applied techniques (methods) courses available to all teachers with requirements for courses in this area. Present plans are that all teachers will complete the applied techniques requirements in the summer of 1968. Further attention is being directed toward provisions of the 1963 Act in pre-service and in-service training for distributive education teachers.

HOME ECONOMICS EDUCATION

In-service training workshops have been conducted for home economics teachers in a number of occupational areas such as child care, food service, and clothing service. These workshops ranged in length from one day up to one week. In the summers of 1966 and 1967, a three-week workshop was offered for teachers in occupational home economics education. Graduate credit was given to those taking the course.

College and university students planning to become teachers of home economics have been given the opportunity to visit departments at the secondary level offering occupational training programs. Also, these students have been encouraged to seek summer employment which would provide work experience in the area of occupational home economics education.

TRADES AND INDUSTRIAL EDUCATION

South Carolina has a young new "baccalaureate degree" program for teachers in trades and industrial education under the provisions of the 1963 Vocational Education Act. This program has been in operation for two years. Previously, teachers in this field had been secured from the trades and industry or from those who completed the requirements for an industrial or practical arts degree at one of our colleges or universities.

In-service training workshops have been provided for trades and industrial education teachers through the years.

I have discussed with you briefly what the South Carolina situation is concerning the training of vocational education teachers in the occupational areas. An attempt will be made to answer any questions you might have later.

I was requested to inject a bit of thought into my presentation that might have some implications for the development of teacher training programs for vocational education teachers. I will handle this portion of my presentation by asking a few questions for your consideration without any attempt to answer them.

Should there be a "baccalaureate degree" program for vocational teachers in all fields? If so, why? Is there a difference in the professional attitudes of vocational teachers who have finished college as compared to the non-college trained teachers? What implications does the amount of professional training a vocational teacher receives have on the kind of instructional program he will develop and present to his students? Is there a place for people with "special skills" in the teaching of vocational education offerings for tomorrow's labor market? If so, how can these special teachers be used most effectively in developing vocational education training programs?

What can be done to encourage vocational teachers to make more efficient use of instructional materials and research information? What improvements should be made in the development of instructional materials for vocational teachers? How can you get vocational education teachers to be more innovative in their approaches to teaching? What can be done to encourage vocational teachers to "tote fewer taters," that is, to teach the more important units as compared to the less important items?

What can be done to incorporate occupational training experiences for undergraduate students in current vocational education course offerings? How can undergraduate students in vocational education be most effectively encouraged to seek summer employment which would provide desirable work experience in the occupational area of their choice? Is it difficult to get approval on new course offerings in undergraduate teacher training programs for vocational education teachers? If so, what can be done to cope with this problem?

The answers to the questions I have asked might provide some implications for current and future vocational teachers.

In closing, allow me to say, that the need for additional vocational teachers is great. The AVA, earlier this year, conducted a study among the fifty states. This study revealed that from 66,000 full-time teachers in 1967, we must find an additional 13,000 vocational teachers by 1970.

VOCATIONAL SERVICE AREA GROUPS: SESSION III

INNOVATIVE APPROACHES IN PROVIDING OCCUPATIONAL EXPERIENCES FOR VOCATIONAL & TECHNICAL TEACHERS: AREAS OF IMPLICATION

AGRICULTURAL EDUCATION
BUSINESS & OFFICE EDUCATION
DISTRIBUTIVE EDUCATION
HOME ECONOMICS EDUCATION
TECHNICAL EDUCATION
TRADE & INDUSTRIAL EDUCATION

INNOVATIVE APPROACHES IN PROVIDING OCCUPATIONAL EXPERIENCES FOR TEACHERS

W. Howard Martin*

Participation in one or more agricultural occupations is a common requirement for certification of teachers of vocational agriculture. In general, this requirement is expressed in terms of a number of years in farming. With developing programs in non-production agriculture, not to mention an acute shortage of teachers, the character and consequences of this requirement become prime areas of discussion and inquiry. In short, adjustment of this requirement becomes one of many dilemmas with which we are confronted in these days of change and crisis.

On the one hand the traditions of vocational education demand competency of the teacher in specific occupations to be taught and this competency is traditionally associated with skills in performance of tasks in the occupation. On the other side we find a short supply of candidates for teaching who have the experiences desired yet, our tradition calls for a college educated teacher of agriculture.

We may state this dilemma as follows: Shall we reduce experience or educational requirements to meet the demand for teachers of agriculture?

How, then, shall we seek to resolve this dilemma? Does the farm experience requirement remain valid? How may occupational experiences best be obtained by teachers? What changes are indicated in teacher education programs?

In this situation we usually seek a synthesis or adaptation which enables us to relate or incorporate the "old ways" with "new conditions." We have to continue living in the old house while building a new one. Research is not especially helpful at this stage partly because there isn't much which is directly related to the problem, and partly because the dilemma is one rooted in traditions and it is difficult to uproot it. In preference to a synthesis we may try for innovation, breakthrough or revolutionary change. Whether viewed as evolutionary or revolutionary it is change and we are concerned with decisions on changes to be made, and the implementation of these changes in the basic pattern of teacher education in agriculture.

The immediate situation is one of short supply. It is most severe in the case of specialized instructors and instructors at the post-secondary level, according to Hensel. In the long run it can be expected that graduates of special courses will be attracted to teaching. An optimist could easily predict a surplus of candidates by 1972. But, in the present period a shortage does exist. The choice in solution implied in the pattern of this conference is adaptive. The solution must satisfy both occupational experience and professional degree criteria. (This may be an impossible problem for the next few years but in the longer run, 3-5 years, it seems a reasonable goal.)

Given these two conditions to be satisfied three possible approaches to the problem emerge:

1. Recruit candidates who are presently engaged in the occupations to be taught.
2. Provide occupational experiences at pre-service and service level for those who are preparing for, or who have entered, teaching.
3. A combination of the first two.

Since these remarks are designed to be provocative I would like to depart from the specific topic to comment briefly on the first alternative. Some states have had considerable success in recruiting college graduates to prepare for teaching.

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There are college graduates in many agricultural fields who may be attracted to a teaching career. It is my belief that immediate results can be obtained if we press hard for this approach. The steps are seen as follows:

1. It involves cooperation among states, if all are to benefit, in financing and planning a cooperative program of teacher education.
2. It requires a concerted effort to identify, recruit and authorize employment of candidates.
3. It needs support to provide salary or major stipends to the men during the training period.

Providing occupational experiences

The second alternative, providing occupational experiences, is our major concern today. In accepting this alternative we are assuming that substantial numbers of candidates are deficient in kind or level of occupational experiences in agriculture. It is not currently possible to obtain an adequate number of candidates if admission requirements are imposed for experience in specific agricultural occupations. Hence, at either or both the pre-service and in-service level opportunities must be provided for students who are deficient to obtain the desired experiences. The requirement of farm experience certainly has much value in most situations but it is not fully adequate to insure occupational competency of specialized teachers of agriculture. Perhaps we can project from this frail framework some general beliefs and possible lines of action in providing occupational experiences in agriculture.

1. Pre-service experience in an agricultural occupation should be required for most persons admitted to teacher preparation programs in agriculture.	a. Revise admission and certification requirements. b. Establish procedure for recording and evaluating students' occupational experience in agriculture.
2. Opportunity should be provided for most students to supplement occupational experiences in specific areas which they desire to teach.	a. This experience represents teaching content and should parallel technical preparation insofar as possible. b. College credit for this experience is a possibility to be explored. c. The alternatives should be explored on an individual basis with counseling as to use of work-study and summer employment to serve this purpose. d. The cooperation of other departments can prove helpful. e. Special emphasis may be given to this need of the student during the student teaching or internship period.
3. Teacher educators should guide their students in determining needs for occupational experiences and in using their experience to interpret practical occupation learning situations.	a. Stress continued first-hand contact as a way to insure success and satisfaction. b. Provide a general format to use in studying occupational content. c. Develop opportunities for students to verify their appraisal of personal strengths and weaknesses. This may include practical tests.

4. New teachers and others in need of added experience in agricultural occupation should be assisted in planning and arranging for the needed opportunities.
   a. Work with teacher to specify experience desired.
   b. Obtain approval to have these experiences a part of paid employment.
   c. Build experiences into course programs as possible.
5. The in-service program should stress meetings of teachers by area of specialization.
   a. Plan curriculum development projects.
   b. Schedule field trips, skill workshops, and subject matter presentations.
   c. Utilize the cooperation of agricultural and business representatives.

Program Changes

As a point of departure for the discussion to follow, I would raise some questions. Perhaps they will serve to tie these remarks to possible changes in programs.

1. Do we have adequate cumulative records of the occupational experience of teachers? Do we need to make more use of these records? Should we work to develop a form which teachers would use in recording their experience?
2. Have we worked with departments to get students part-time employment appropriate to their career goal? Is there more opportunity for students to have a combination of course work with occupational experience (a research project involving a greenhouse crop)? Will other departments assist in finding summer employment of the desired types for undergraduate students?
3. Are we capitalizing upon occupational experiences of students in our own teaching? Are we helping students to interpret and generalize from these experiences? Could we use video tapes of "students in occupational experiences?"
4. Are we giving our students enough contact with high school students at work in agricultural occupation? Is this helping our students see value in extending their own occupational experience?
5. Are we helping school administrators appraise teachers' needs for occupational experience? Have we worked to get new teachers time for this experience with local agricultural firms? Have we tried to build this into our in-service or graduate programs on a selective basis?
6. What is happening to our conventional district teacher organization? Are we trying some meetings for teachers of special areas on a different basis? Are these meetings used to verify, correct, and extend meanings of the teachers' occupational experience? Are we working with agricultural businesses and industries?

SUMMARY

Many factors make it increasingly difficult to impose occupational experience as a general requirement for admission to undergraduate teacher education programs.

1. A solution promising immediate results at relatively high cost is to recruit and train college men who have occupational experience. This solution probably will insure experience at the desired level.
2. A solution which offers intermediate to long-range results is to make provision for teaching candidates and employed teachers to obtain specified occupational experiences. This can be done at relatively low cost but, neither great depth or breadth of experience in the occupation is to be anticipated. Careful planning may help to make the specific experience of value, especially if it supplements experiences in farming or other agricultural occupations.
3. We need to know more about the problem to be very certain in imposing requirements or going too far in throwing out parts of technical and professional education to make room for occupational experiences in the regular schedule.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Cecil H. Johnson, Jr.*

The most immediate solution to the problem of providing agriculture instructors who have occupational experience is to recruit personnel from agricultural business and industry. In addition, provisions should be made to provide occupational experience for prospective teachers, either in pre-service or in-service programs.

A means of evaluating past experiences of teachers and prospective teachers should be devised in order that appropriate occupational experience may be provided for the area of specialization for which the teacher is preparing. It is recommended that a planned program of occupational experience be a major and central part of the training program for teachers of vocational agriculture. These experiences should include a wide range of agricultural occupations as needed by the modern teacher of vocational agriculture. Further, it is urged that the needed occupational experience be the major aim and that the matter of credit or pay not be considered detrimental to the acquiring of this needed experience. It is recommended that money be made available at the university and state division of vocational education for the improvement and implimentation of occupational experience programs for every prospective teacher of vocational agriculture.

Further study should be conducted to determine alternative means of providing effective, efficient occupational experience for future vocational agriculture teachers.

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INNOVATIVE WAYS OF OBTAINING WORK EXPERIENCE FOR TEACHERS OF BUSINESS AND OFFICE EDUCATION

Frank W. Lanham*

Work experience as a part of an educational program of any kind is nothing more than a method. It is a tool to be used to contribute toward some kind of changed behavior in a learner--in this case a prospective or practicing business and office education teacher.

To accept the title as it is given, each of us might have to assume some inherent values for work experience. I could not and cannot see intrinsic value in work experience. I could not see work experience for its own sake alone. Such a title suggested that if intrinsic values do not exist in work experience that you and I must assume certain values, values generally considered good enough to think about innovative means of providing such experiences for business and office teachers. Thus, in this context, work experience in the title is something that we must be for and not against. We have a general feeling that work experience is good and therefore because it is good we can dispense with any reasoning about why a prospective or in-service teacher should have work experience. And with the why as an unnecessary topic of discussion we can get down to the job of innovating ways of providing teachers with job experiences.

The uneasiness that grew out of these thoughts was bolstered somewhat, I must admit, by the prescriptions of some teacher education curriculums, the prescriptions of some state plans, and, indeed, the way some so-called cooperative work study programs operate. The prescriptions in some plans of 1000 or 2000, or even 10,000 hours of work experience as a good of and by itself without any clear delineation of what 1000 or 2000 or even 10,000 hours of work experience was supposed to do for the individual has always been distressing to me, and in the current topic served as a stumbling block in preparing these remarks on innovative ways of providing it.

Because I wanted to be an innovator, I began preparing my remarks by attacking the assumption that work experience was generally good.

I shan't bore you with the whole speech thus prepared, just the start of it which I think may be relevant to what we want to do later. My thoughts took me to an old saw that goes something like this: "Practice can make the good violin player; practice can also make the poor violin player. The kind of player that results depends upon the nature of the practice." Isn't that a gem of wisdom?

Well, with an element of truth in that bit of homey philosophy, I paraphrased the saying like this: "Work experience makes the good worker; work experience also makes the poor worker. The kind of worker that results depends upon the nature of the work experience." And that statement is just as overpowering as the original, isn't it? (From such a beginning, you've probably already guessed one reason for my changing what I had planned to say).

I do hold value for work experience as an educational tool to be employed in teacher education. I generally believe in work experience--at least for prospective and in-service teachers. Every prospective and practicing teacher needs work experience, years of work experience, and it's easy for us in teacher education to prescribe more of it, and even to be innovative in our thinking about ways of providing it--at least when we are prescribing for the other person.

At this point in my righteous thinking of what was good for the other person, I turned my thoughts toward me. And in a "what's good for the goose is good for the

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gander" sort of platitudinal way, I began to examine my own work experiences. To what extent would my prescriptions for others fit me? Here are some results of the examination: 1) Not one of the jobs I have ever held was a part of an educational program--except as they did often provide the wherewithal to go to school. 2) The drudgery of working in a home-owned grocery store in which the job was a 12-hour day, 7 day a week (15 hours on Saturday) was certainly motivation for my leaving that kind of work to become a teacher. 3) The sharp practices I have observed, (and even participated in--for I have sold 14 lb. pecks of potatoes and even watered the hamburger) did bring me in touch with business ethics and at times, I'm afraid, ethics took second place to business. 4) As a bank teller, I have experienced the despair of giving away $500 too much in travelers checks. 5) Social relations observed through business has put me in touch with the sordid and the seamier side of some animal like humans. (Not all the perversions of sex that I know about were learned in the Army or at the Toledo burlesque). 6) Because of my firsthand knowledge of business, I do have a reasonable concept of what business is all about. My firsthand knowledge sometimes gives me a sense of smugness as I listen to some colleagues who haven't experienced the kinds of business I know and who in consequence expound half truths.

Perhaps the most innovative thing that we can do here today is to specify exactly what kind of behavior we want our prospective and in-service teachers to exhibit as a result of work experience. This specification is reasonable. If work experience is to provide values other than the hit and miss values that can come from just living, we need to specify what they are. If our teachers are to benefit from work experience, they need to know specifically what the benefits are they seek.

Well, let's look at my list of behaviors. The list is not complete. I must confess that though we operate a cooperative program for teachers I have never been quite so definite in expressing specifically what the terminal or interim behaviors should be.

The list of objectives have been influenced by Bob Mager's book, Writing Objectives for Programmed Instruction. Mager describes three elements necessary for a behavioral objective: 1) the task, 2) the conditions surrounding the task to be performed, and 3) the criteria by which we evaluate successful performance.

Al Canfield, vice-president for curriculum and instruction at Oakland County Community College, has added a fourth element to a behavioral goal, i.e., the rationale. Canfield believes that the rationale stated as a part of a behavioral goal provided reason and thus motivation for the students.

I propose that we use this list, which I admit is but a beginning, as raw material to begin our being innovative about ways of providing work experience. First, let's go through each one of the fourteen to determine whether or not each of the behavioral goals meets the conditions of 1) a task, 2) conditions for task performance, 3) criteria of success, and 4) rationale.

On this latter point of rationale, I must admit a rather high level of generality in these examples. Perhaps you can add the needed specificity.

Second, as we go through each of the items, we should check to see whether the statement does communicate a specific behavioral goal, one with which you agree or disagree, one which you wish to modify.

The fourteen behavioral goals may be defensible goals and each one developed from my thinking about the outcomes I'd like to see from a prospective or practicing teacher's work experiences. Yet, the third way I propose we look at these goals is to ask ourselves about other means than work experience, peculiar experiences other than work that might prove equally effective or even less time consuming to achieve than through work.

A fourth way we should look at each of these goals is to see if means can be developed to evaluate or measure their achievement. Perhaps it is more fundamental than innovative to say that the next big thrust in education must be identifying our specific goals and determining ways of measuring our outcomes.

In conclusion may we say this: determining innovative ways of providing work experiences must grow out of defensible behavioral goals. Work experience is but a tool, an important tool to be sure, but one we must learn when and how to use effectively. In this way, we are more likely to provide educative experiences that will mold the behaviors of competent business and office teachers.

SUMMARY OF THE REMARKS AND DISCUSSION OF PARTICIPANTS

Marla Peterson*

In order to implement or improve vocational-technical teacher education it was suggested that much additional effort, including possibly a national seminar, needs to be directed toward understanding the behavioral objectives of the teacher education program. It was also suggested that since isolated research efforts will not work for many research projects concerned with teacher education, coordinated effort between many persons and institutions is proposed.

As a logical follow-up to the seminar proceedings it was suggested that an attempt be made to obtain the reactions of the vocational-technical teaching profession to the necessity of occupational work experience for teacher preparation.

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DIRECTED DISTRIBUTION OCCUPATIONAL EXPERIENCE

Lucy C. Crawford*

One of the areas of most concern in the preparation of distributive education personnel is the area of occupational experience. This is evident in several ways:

1. Every state has some form of occupational experience requirements included in the distributive education state plan.[1]
2. Research studies indicate the need for further consideration of the problem.

   In the Willis Study, "An Evaluation of Teacher Training for Distributive Education throughout the United States,"[2] a recommendation for further study was made to determine "an analysis of the quality, quantity, and recency of occupational experience of employed distributive teacher-coordinators."

   Knouse, in 1961,[3] found that occupational experience ranked in the first four choices by distributive teacher educators of problems that should have immediate attention. The conclusion was: "More emphasis should be placed on occupational experience with greater attention being given to college-industry arranged internship experience."

   In the report of the "Pilot Training Project Based on Directed Occupational Experience for Teachers of Marketing and Distribution,"[4] Meyer stated:

   > With the increased demand for vocational teachers and the changing nature of jobs in today's world of work, it is important that we find effective ways to provide occupational experience that will prepare more vocational teachers and to keep their occupational experience up to date.

3. National meetings, such as this National Seminar on Teacher Education, include the topic of occupational experience as a major problem for consideration.

The fact that a provision concerning occupational experience has been included in legislation governing vocational education since 1917 reflects the beliefs of vocational leaders that occupational experience is extremely important. A provision of the Smith-Hughes Act of 1917 was that teacher training "shall be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers, supervisors, or directors, or who are acquiring

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[1]Edward T. Ferguson, Jr., Survey of Practices for College Distributive Education and Retailing Occupational Experience Programs, Council for Distributive Teacher Education (Blacksburg: Distributive Education Division, Vocational Education Department, Virginia Polytechnic Institute, 1964), (Professional Bulletin Series No. 6).

[2]Doris Willis, An Evaluative Study of Teacher Training for Distributive Education Throughout the United States (Doctor's thesis, Bloomington: Indiana University, 1954).

[3]Reno S. Knouse, Needed Improvements in Distributive Teacher Education, Council for Distributive Teacher Education (East Lansing: Michigan State University, Distributive Teacher Education Service, 1962) (Professional Bulletin Series No. 1).

[4]Warren G. Meyer, (director), Pilot Training Project Based on Directed Occupational Experiences for Teachers of Distribution and Marketing (University of Minnesota), (USOE Project No. 6-1594, 3/16/66 - 3/15/67).

such experience or contact as part of their training; and that the State Board--shall establish minimum requirements for such experience or contact..." This same provision is in the Vocational Act of 1963.[5] It is interesting to note that Prosser, whose influence on vocational education is so well known, includes six statements relevant to occupational experience in his "Sixteen Theorems:"

1. The instructor must have had successful and recent experience in the field he is employed to teach.
2. Thinking habits and manipulative habits must be the same as those required in the occupation itself.
3. Vocational training to be effective must be given in the same way, with the same operations, the same tools and machines as in the occupation itself.
4. Learning is effective to the extent that the conditions under which the student learns are like those under which he will later work.
5. The only reliable source of content for specific training in an occupation is in the experiences of masters of that occupation.
6. For every occupation there is a body of content which is peculiar to that occupation, and which practically has no functioning value in any other occupation.

Although the philosophy of vocational education has changed through the years to meet changing conditions, the basic principles expressed in these six theorems of Prosser relevant to occupational experience still have impact on the consideration of the problem of the requirement for occupational experiences for distributive education personnel.

In "A Philosophy of Distributive Education,"[6] several of the ninety-six basic beliefs are concerned with occupational competency. It is safe to assume that distributive education leaders believe in the requirement for occupational experience. The issues, then, are the methods of obtaining this experience and the amount and kind of experience necessary to develop occupational competency.

Warmke[7] (1960) found that the majority of the fifty-seven distributive education leaders who responded to the question concerning occupational experience believe that supervised occupational experience should not, by itself, be allowed to meet the minimum occupational experience requirement. However, leaders who were in the minority gave supporting statements for their point of view which merit consideration. One leader gave the following comment:

> It is my contention that entirely too much emphasis is placed on work experience in certifying D. E. teachers. The kind of experience is much more important than hours of experience.
>
> A good teacher-training program with a provision for supervised work experience is, in my opinion, preferable to random experience gathered over a period of years.

Another respondent commented:

> We have a lot to learn about minimum occupational experience requirements. Most D. E. people have had little or no experience with a sound supervised business experience program conducted by our colleges and universities. Understandably, they are skeptical.
>
> As we become more and more professionalized, the supervised business program will gain in quality and recognition. To make my point more clearly, consider the professionalization of the M. D. preparation. Experiences once gained through apprenticeship are now acquired through a a more refined, systemized curriculum. To a degree, this will also become true for D. E. personnel. It is in this sense that the supervised business experience program should prove helpful.

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[5]U. S. Department of Health, Education, and Welfare, Administration of Vocational Education (Washington, D. C., 1966), (Vocational Education Bulletin No. 1).

[6]Lucy C. Crawford, A Philosophy of Education, Council for Distributive Teacher Education (Virginia Polytechnic Institute, 1966), (Bulletin No. 10).

[7]Roman F. Warmke, Distributive Education Issues in 1959 (Doctor's thesis, Minneapolis: University of Minnesota, 1960).

The Ferguson[8] (1964) investigation, "Survey of Practices of College Distributive Education and Retailing Occupational Experience Programs," showed that of the thirty-three institutions offering distributive teacher education only fifteen institutions in twelve states had a provision for directed occupational experience. Directed occupational experience was defined as "work experience that is supervised and coordinated either by actual visits to the work station by the distributive education teacher educator or some other university personnel, or by mail, telephone, work reports or some other means of communication." This study included 102 institutions of higher learning. The questionnaire was sent to institutions listed by the U. S. Office of Education on the Directory of Distributive Education Teacher Educators, by the American Collegiate Retailing Association, and to a selection of schools listed in the Roster of the National Association of Business Teacher Education. Only thirty institutions of this entire group (including the fifteen mentioned above) provided a directed occupational experience program at either the undergraduate or graduate level. Ferguson observed that it was a startling fact that 61.2 percent of the leading colleges and universities surveyed did not offer at that time and indicated that they were not planning to establish a program in the near future.

John Dewey once said, "Mankind likes to think in terms of extreme opposites. It is given to formulating its beliefs in terms of Either-Or's between which it recognizes no immediate possibilities."[9] Perhaps this is one reason why states have been reluctant to consider alternatives to the traditional requirement of from two to five years of full-time occupational experience which is included in the state plans of most states. However, as Venn[10] points out in Man, Education, and Work, the critical shortage of competent teachers makes new thinking about the preparation of vocational teachers mandatory.

New thinking needs to be focused on directed occupational experience in pre-service distributive teachers education programs. Since the directed occupational experience program at Virginia Polytechnic Institute is typical of the thirty occupational experience programs reported in Ferguson's study a description of the V.P.I. program can serve as a frame of reference for some proposed guiding principles and for suggested innovations.

A PRE-SERVICE DISTRIBUTIVE TEACHER EDUCATION DIRECTED OCCUPATIONAL EXPERIENCE PLAN

Purpose

The purpose of directed occupational experience in the pre-service distributive teacher education program is to develop through personal experience occupational knowledges, understandings, skills and attitudes of prospective distributive education teacher-coordinators to the end that teacher-coordinators can, in turn, develop appropriate occupational competencies in distributive workers.

Specific objectives of directed occupational experience include the following:

The student will, from personal occupational experience:

1. Demonstrate a knowledge of career opportunities in a distributive business.
2. Be able to cite illustrations of principles underlying:
   a. economics
   b. marketing
   c. selling
   d. advertising
   e. display
   f. store operations
   g. merchandising
3. Demonstrate a depth of product knowledge regarding at least one category of products.
4. Demonstrate basic knowledges of the technology concerning a wide variety of products and services.

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[8]Ibid., Ferguson (Professional Bulletin Series No. 6).

[9]John Dewey, Experience and Education (New York: Collier Books, 1965).

[10]Grant Venn, Man, Education, and Work (Washington, D. C.: American Council on Education, 1964).

5. Demonstrate an understanding of personnel policies regarding selection, placement and training.
6. Be aware of problems in human relations pertinent to job situations.
7. Be cognizant of communications and mathematical skills required of distributive workers.
8. Be able to design learning experiences and projects that will develop needed competencies.

At the present time the directed occupational experience at Virginia Polytechnic Institute is provided in a two-quarter course entitled, "Directed Store Experience." There are two different experiences: A three-hundred hour full-time experience in a sales or sales supporting job, which takes place in the summer between the junior and senior year; a two-hundred hour full-time experience in a job which includes some supervisory duties. The second experience takes place six weeks prior to Chrismas and is made possible by blocking four distributive education courses into the first six weeks of the fall quarter.

A brief description of the summer experience will reveal some significant characteristics. Before enrolling for the course, "Directed Store Experience," the student will have taken the following technical courses: marketing, salesmanship, advertising, textiles, store operations, principles of merchandise control and areas of distribution. In the spring of the junior year the student is enrolled in store operations, principles of merchandise control and areas of distribution (the areas taught in this quarter are personal development and selling), all of which are taught by the distributive education staff. Early in the quarter, or preferably in the preceding winter quarter, a seminar is held for eligible students to explain the purposes of the directed occupational experience and to outline the procedures for arranging the summer job placements. (Further details concerning procedures are included in the Appendix.) The student is expected to get a firm commitment for a job, which must be approved by the teacher-educator handling this course, before the end of the spring quarter. A second seminar is held to explain the reporting procedures relating to this experience. There are two types of reports. The first is a weekly production report patterned after the weekly reports of D. E. students in Virginia. This report is signed by the immediate supervisor and mailed to the D. E. Department at V.P.I. by the student so that there is communication regarding his hours of work, his job duties, and any problems which need attention. The second report is a major assignment based on questions organized around five organizational functions: selling, sales promotion, operations, merchandising, and personnel. Through observation, interviews with appropriate personnel, and through personal experience the student answers the questions in detail in the form of a manual. This manual becomes an important reference for the student, so he is urged to obtain as many illustrations from his training agency as possible. A member of the D. E. staff makes at least one coordination visit. A further evaluation is made through a rating device which is mailed to the employer at the conclusion of the occupational experience. The student's grade is based on the occupational experience manual, the information obtained during the coordination visit, the written evaluation and the weekly production reports.

The pre-Christmas experience is handled in the same manner except that production reports are not mailed weekly but are signed by the supervisor and reported when the student returns to the campus for the winter quarter. The occupational experience report for the second experience is based on questions relating to supervisory and management problems.

At the present time, the summer experience carries five quarter hours credit and the pre-Christmas experience carries two quarter hours credit.

These two experiences, which include a minimum of 500 hours, satisfy the occupational experience requirement in the Virginia State Plan. It should be noted that many, if not most, of the students in the pre-service distributive education teacher education program have many additional hours of distributive occupational experience, but it is Virginia's philosophy that it is not the length of time but the kind and quality of the occupational experience that accomplishes the purpose of the occupational experience requirement for teacher-coordinators.

PROBLEMS

The administration of a directed occupational experience program is difficult in the best of circumstances and in an institution located forty miles from a metropolitan area it is very difficult to administer. The major problems are: 1) appropriate job placements; 2) coordination; 3) teacher-load; 4) competition with business for the D. E. graduate.

Let us discuss each problem briefly. First, the problem of job placement. Since most of the students are men who are self-supporting and in many cases are married, it is not realistic to require them to live away from home while they gain this experience. Suitable placements in the Blacksburg area are limited; therefore, in order for students to be placed in jobs that will provide desirable learning experiences, and at the same time are jobs that are economically feasible for them, students are permitted to seek jobs anywhere in Virginia. Second, the problem of coordination. The fact that students are placed at such distances from the campus makes it necessary to limit the number of personal visits to the cooperating firm. Even with careful planning in advance, it is not always possible to have conferences that have been scheduled. Every teacher-coordinator has the experiences of last-minute change in plans of store personnel, but at the local level it is not catastrophic because other coordination visits can be made without much difficulty. However, when a staff member has a week's itenerary covering several hundred miles, it is usually not convenient to reschedule a conference on another day. And, of course, the cost of travel is another factor in planning coordination visits--not to mention the wear and tear on the staff member. A third problem is that of teacher-load. It is relatively easy to justify a staff member's time for coordination during the actual period of employment. However, many of the coordination activities take place in the quarter prior to and in the quarter after the experience. For example, the seminars previously mentioned and the approval of job placements takes place in the previous quarter; the evaluation phase of the program takes place in the following quarter. A fourth problem is that almost invariably the cooperating firm wants to place the prospective D. E. teacher-coordinator on the management training program of the firm with the hope and expectation that upon graduation the student will accept a job with the firm. This teacher educator has taken the position that the student should not commit himself to either teaching or business until he has completed his student teaching experience. It has helped in the placement of students to emphasize to the cooperating firm that the distributive business gains regardless of the outcome, for if the student becomes a teacher-coordinator he will be training many possible candidates for positions with the firm, whereas if he, himself, accepts the position he will be only one. This, however, reamins a problem yet to be resolved. These and other problems concerning individual students, make administration of directed occupational experience difficult at best.

The reader may well ask: "Is it worth it?" "Is it worth the time, effort, and cost to include directed occupational experience in a pre-service distributive teacher education program?" An analysis of the values, both to the student and to the university provides an affirmative answer.

Values to Students

In a follow-up study of 1956-1963 D. E. Graduates of Virginia Polytechnic Institute, Cheshire[11] found that students rated directed occupational experience as one of the most profitable phases of the pre-service teacher education program. The obvious values of the experience are revealed in a number of ways when the student is engaged in demonstrations in class and when he is engaged in student teaching. Some of them are:

1. The student speaks with authority concerning the theories which he has experienced or observed in practice.
2. He has confidence that his knowledge is up to date.
3. He is able to cite meaningful illustrations.
4. He realizes that the source of curriculum content is in the occupation and that this source can be tapped continuously for current information.

Values to the University

The directed occupational experience:

1. Helps to keep not only the distributive education staff member in charge of the program but the entire distributive education staff currently occupationally knowledgeable.
2. Helps to keep members of the distributive education staff aware of current problems of coordination faced by the D. E. teacher-coordinator.
3. Provides the contact with top management of distributive businesses that would otherwise be lost in the distributive teacher-education program.

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[11]Harley R. Cheshire, A Follow-Up Study of Virginia Polytechnic Institute Graduates in Distributive Education, 1956-1963 (Master's study, Blacksburg, Virginia: Virginia Polytechnic Institute, 1964).

SOME GUIDING PRINCIPLES

Based on the characteristics of a typical occupational experience program as revealed in the Ferguson study and the personal experience of the writer, the following principles are suggested as guidelines in planning and conducting an occupational program.

1. The occupational experience program should be coordinated by a member of the distributive teacher education staff.
2. The educational objectives of the directed occupational experience program should be clearly stated.
3. Learning experiences should be planned in terms of the stated objectives.
4. The length of time of the program should be determined by the desired learning experiences.
5. At least a portion of the directed occupational experience program should be full-time.
6. Technical (subject matter) courses should precede or be integrated with the directed occupational program so that theories and principles can form the foundational structure of the practical experiences.
7. Seminars or other methods of sharing experiences of students should follow or be integrated with the directed occupational experience.
8. The design for the report of the occupational experience should provide the student an opportunity to analyze and evaluate the experience and should include illustrations of various aspects of the business.
9. The directed occupational experience program should be designed cooperatively by the distributive teacher education institution and the distributive education state supervisor so that the resulting program can meet state plan requirements and so that, conversely, state plan requirements can be restated, if necessary, to recognize this program.
10. The learning experience should provide an opportunity for the student to gain an understanding of the total operation of the distributive business.

SOME POSSIBLE INNOVATIONS

If a directed occupational program is administered in such a way that there is little or no flexibility, this program will tend to become rigid in its requirements and its purpose may be defeated.

Meyer's pilot program, previously mentioned, points the way for a number of innovations which need to be considered in the pre-service preparation of teachers. Even though this experimental program was designed as an in-service program for teacher-coordinators who had previous occupational experience, the results of this program have many implications for the pre-service D. E. teacher-education program.

What, then, are some variations in the typical directed occupational experience program that could strengthen the accomplishment of objectives for the occupational experience requirement? This question poses areas for further consideration:

1. A fellowship program supported by distributive businesses through their foundations could be established to make placements in more ideal situations.
2. Programs could include one full-time paid directed work experience and a pre-directed full-time or part-time paid work experience.
3. Programs could include one full-time paid directed work experience at the sales level and one non-paid directed observation experience at the supervisory level.
4. The directed occupational experience program could be incorporated into a course in store operations and listed as a practicum.
5. The directed occupational experience program could be designed as a cooperative program similar to that in the five-year engineering and business cooperative programs.
6. More emphasis could be placed on the professional aspects of the occupational experience (construction of learning experiences and projects; job analysis, etc.)
7. The length of time for the paid full-time experience could be shortened if other methods were employed, such as interviews and directed observations.
8. Two or more different categories of business as well as two levels of experience could be incorporated in the plan for directed occupational experience.
9. Participating experiences and projects could replace a portion of the previous requirements for paid, full-time directed occupational experience.

RECOMMENDATIONS

These and other innovations require careful study and experimentation. The research project, "A Competency Pattern Approach to Curriculum Construction in Distributive Teacher Education,"[12] for which the writer is the principal investigator, has identified technical competencies needed by distributive education teacher-coordinators. Occupational experience is only one method of developing technical competence. Further research is needed to determine how much and what kind of occupational experience will best develop the identified competencies and to determine in what combination with technical courses should such experience be provided.

A directed occupational experience program requires the cooperation of distributive businesses. A National Distributive Advisory Committee should be established to assist distributive educators in solving the problem of providing occupational experience for prospective distributive education teacher-coordinators.

SUMMARY

Traditionally, the various states have included a requirement for occupational experience in state plans. In practice, the majority of the states have interpreted the fulfillment of the requirement to be varying amounts of full-time and part-time occupational experience rather than requesting participation in a directed occupational experience program, pre-service or in-service.

The critical need for distributive education personnel makes it necessary to rethink occupational experience requirements in state plans and in certification specifications. It behooves us to ensure that the rationale for occupational work experience is not based solely on tradition but rather on a purposeful set of objectives which, when accomplished, will result in adequately qualified distributive education personnel.

One alternative to the requirement for two or more years of full-time experience is a provision for directed occupational experience in the pre-service distributive teacher education program. Guiding principles derived from characteristics of existing directed occupational experience programs can serve until further research can determine how best to develop technical competencies needed by the distributive education teacher-coordinator. Concurrently, creative thinking should be applied to this problem in order to develop variations in directed occupational experience programs that will effectively accomplish the purpose of the traditional occupational experience requirements.

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[12]Lucy C. Crawford, (Director) A Competency Pattern Approach to Curriculum Construction in Distributive Education (Virginia Polytechnic Institute), (No. 5-0166, Research 9/1/65 - 12/30/67).

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Kenneth E. Hoffman*

Teacher education in distributive education must broaden its offerings to include other than retail occupational experience. Within existing programs, credit might be granted for advancement on the job and for supervised experience, or for successful completion of trade examinations.

Courses such as independent studies, special problems, seminars and internships can be offered on the graduate level for occupational experience. The possibility exists for using local high school and post-high school coordinators for supervision of the job experience prospective distributive teachers obtain.

It is possible to devote an entire quarter of the teacher education program to a wide range of occupational experiences. This might include, for example, participation in the work of social welfare and employment agencies, or specialized educational institutions.

Further needed research or experimental, development or pilot programs were identified. There is a need for the construction and testing of trade examinations to use in evaluating the competency and knowledge of prospective distributive education teachers, as well as further identification of the competencies they need. The possibility exists of using closed circuit television or video tape to record the job performance of prospective teachers during the directed experience. This would provide the basis for self evaluation, seminar discussion and also cut down on the amount of visitation time the supervising teacher educator devotes to each student.

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HOW TO GET TEACHERS READY FOR TEACHING OCCUPATIONAL PREPARATION PROGRAMS RELATED TO HOME ECONOMICS KNOWLEDGE AND SKILLS?

Anna M. Gorman

INTRODUCTION

The path of change is not always an easy one. But, for the purpose of stimulating the deliberations, I have taken the liberty of 1) dissecting the training proposals into the cube elements for analyzing purposes, 2) proposing questions which arose in my deliberating, and 3) using only parts of projects which were accessible to me.

Next, by tearing any whole into its component parts, much injustice is committed to the unified idea or structure. So, let me emphasize that the only reason this procedure was followed was to stimulate discussion and arouse response during this session.

THE TASK FORCE SESSION

Our responsibility in this "Task Force Session" is to come up with some constructive suggestions, projects, or action programs on how to improve, revise, moderate, modify, discover, or suggest ways of answering the question "How to get teachers ready for teaching occupational preparation programs related to our field?" To guide the deliberations, an idealized theoretical model will be used wherein we can examine the aspects or elements of the model in reference to the question, then, evaluate the progress made in order to be able to take next steps in helping to solve or answer the questions.

The idea for the theoretical model being used as the guide for this presentation came from Dr. Joseph C. Bledsoe, professor of education, University of Georgia in Athens. By referring to the model (Figure 1, page), one can see the six elements which Dr. Bledsoe believed form a guide in being able to mentally reconstruct the world of empirical fact.[1] He related these elements to making decisions about learning in the following manner--"To enable learners (who) to learn tasks and activities (what) in more efficient and effective processes (how) in many settings (where) and at many times (when) for many objectives (why).[2]

What insights can be gained from a careful examination of the six elements? First, as home economics teacher educators, we are all concerned and experienced in dealing with these elements of learnings. Next, it is refreshening to review our beliefs of the contributions of home economics education to the welfare of individuals and families. Next, one can reexamine what is the present in home economics education on a rather objective basis. Then, it can be determined if there are elements which have never been studied in the context of home economics education. Lastly, steps can be planned on the bases of priority in order to help find solutions to the posed question.

Why Element

Does home economics education have a philosophy with objectives, ends, purposes in teacher education which justify involvement in preparing teachers for teaching in

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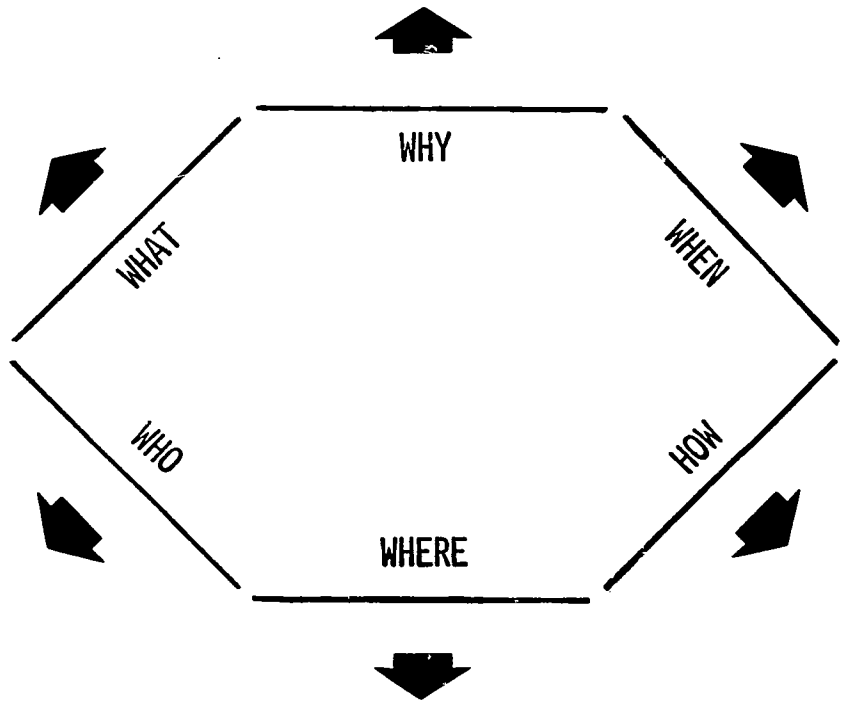
[1] Report of a National Seminar on Research in Curriculum Development, (Athens, Georgia: Vocational Research, College of Education, University of Georgia, 1966), p 39.

[2] Ibid.

PHILOSOPHY, OBJECTIVES,
ENDS, PURPOSES

CONTENT OR KINDS OF
LEARNING EXPERIENCES
TO BE PROVIDED.



PRINCIPLES OF READINESS AND
ASSOCIATED CONCEPTS OF THE
"TEACHABLE MOMENT" AND THE
"DEVELOPMENTAL TASK."

LEARNER--FROM BIRTH
TO SENESCENCE.

PROCESSES, PROCEDURES,
THEORIES, MEDIA, AND
PRACTICE OF LEARNING.

LOCALES AND SETTINGS
FACILITIES, EQUIPMENT,
PLANT.

FIGURE I. IDEALIZED GEOMETRIC MODEL OF THE LEARNING SITUATION.

occupational programs related to home economics knowledge and skills? This is the why element of the model.

Teacher education is one of the ancillary services in vocational education. What type of programs in home economics need teachers? From Bulletin No. 1, Revised 1966, Administration of Vocational Education, two broad objectives for home economics programs are discerned.

VOCATIONAL EDUCATION IN HOME ECONOMICS

104.66 Vocational Education in Home Economics

> Vocational education in home economics under the state plan shall be designed for persons over 14 years of age who have entered upon or who are preparing to enter upon a.) useful employment in the home (hereafter referred to as homemaking) or b.) gainful employment in an occupation involving knowledge and skills of home economics subjects.[3]

Therefore, we have the right and obligation to prepare persons who can teach homemaking and to prepare individuals who can teach others so they can be gainfully employed in jobs related to home economics knowledge and skills.

In an effort to clarify the why element in home economics education, the results of Reno and Nebraska seminars, were next examined. The focus of these seminars was to develop the "Context for Viewing the Structure of Home Economics Education," the "Organizing Principle for the Structure of Home Economics Education," and the "Conceptional Structure of Home Economics Education with the Involved Generalization." The results of the Nebraska seminar are still at the "work material" level; but, for discussion purposes, one can examine the proposed material to elicit need for careful consideration being given to the question before us.

Within the section "Context for Viewing the Structure of Home Economics Education," one point will be used to illustrate the need for home economics educators to give attention to the preparation of occupational teachers. Point three of the "Context for Viewing the Structure" reads, "We accept society's injunction to provide education for all." French's four behavioral goals are then stated under point three. The fourth behavioral goal is "Becoming economically competent."[4] Thus, within the suggested "Context for Viewing the Structure," there are beliefs and objectives which relate us directly to the need of preparing teachers for teaching occupational preparation programs.

Another section of the "Working Materials" will be presented to further illustrate the involvement of home economics education with occupational preparation programs. In the conceptional structure, "Philosophy of Home Economics Education," there are two generalizations which, when realized by prospective or advance study teachers, would involve the need for occupational preparation programs in home economics. One generalization stated is "Contemporary social issues and practices and their underlying values affect the content of home economics education programs."[5] This generalization, if and when realized or discovered by prospective teachers, would certainly assist us in developing commitment to home economics occupational programs. Another generalization is, "Home economics is a field of study and service which shares with other fields of study and service the common goal of promoting full development of human beings."[6] If teachers who are pursuing continuing or advanced study realized this generalization, recruitment of experienced teachers for preparation programs for occupational teaching would be rather simple.

Thus, persons in home economics education believe and have objectives related to occupational preparation. There is a need for us to answer the questions "How to get teachers ready for teaching occupational preparation programs related to home economics knowledge and skills?"

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[3]Administration of Vocational Education: Rules and Regulations, (Washington, D. C., United States Government Printing Office, No. 1, Revised 1966), p. 44.

[4]Shirley Kreutz, "Work Materials from Seminar to Identify Structure in Home Economics Education," (Lincoln, Nebraska, Department of Home Economics Education, University of Nebraska, 1967), p. 1.

[5]Ibid., p. 5.

[6]Ibid.

Who Element

In assisting to answer the question, let us next turn our attention to the who element involved in learning. The who is the learner throughout his life span. In the discussion here, the who has reference to who should we get ready to teach occupational classes.

There are regulations, other models, and research findings which should give us assistance in helping to find a solution to the who in the problem. From the Vocational Education Bulletin No. 1, Revised 1966, under Minimum Qualifications of Personnel, the following statement applies to the who--"Such minimum qualifications shall contain standards of experience and education, and other requirements which are reasonable in relation to the duties to be performed."[7] Further it is stated that "Vocational teacher training supported with funds under Smith-Hughes, George-Barden, and supplementary act, will be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers and other vocational education personnel, or who are acquiring such experience or contact as a part of their training."[8] Therefore, under the federal regulations, there were two specific requirements (education and experience) about the who in the person selected to teach occupational courses.

How are some of the instructional programs for preparing teachers of occupational preparation programs interrupting the regulations for the who?

The University of Nebraska had a preparation of teachers for teaching of child development clusters of occupations. The following criteria guided the selection of the participants "who" in this program.

> Workshop Participants: The state supervisor of home economics education for each state in the United States was asked to recommend vocational home economics teachers interested in a summer workshop to be conducted by the Department of Human Development and the Family on the University of Nebraska campus, June 13 to July 22, 1966. Applicants necessarily were to have a bachelor's degree or beyond, be experienced vocational home economics teachers currently teaching at the secondary level, and qualified for admittance to the graduate college, University of Nebraska. It was asked that they show above average competency in academic work, possess qualities of initiative and creativeness, and be interested in developing a pilot program of nation-wide scope. Each application was accompanied by the recommendation of the respective high school superintendent, giving evidence of the administrator's willingness to include a training program in the high school home economics curriculum.[9]

To review, the criteria used to select these teachers were 1) had to be interested in attending a workshop in a Department of Child Development and the Family; 2) had to have at least a bachelor's degree; 3) had to be teaching home economics currently at the secondary level; 4) qualified for admittance to the graduate college; 5) have above average competency, in academic work; 6) possess qualities of initiative and creativeness; 7) be interested in developing a pilot program of nation-wide scope; 8) recommended by superintendent; and 9) administrators willing to include a training program in the high school curriculum. The workshop was developed for fifty trainees; twenty-eight trainees from twenty states enrolled. Nine programs were being taught in 1966; four programs were to begin in 1967.

Another workshop had the following statements regarding the who should attend. "Participants were to include home economics teachers and supervisors, and others such as distributive or industrial education personnel who will supervise, teach, and coordinate high school, area school, or post high school food service occupational training programs."[10] Here the criteria specified are 1) a teacher or supervisor; 2) who will supervise, teach, or coordinate programs; and 3) in food service area.

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[7]Administration of Vocational Education: Rules and Regulations, p. 14.

[8]Ibid., p. 20.

[9]Helen Sulek, Final Report Child Development Training Program for Vocational Home Economics Teachers, (Lincoln, Nebraska: Department of Human Development and the Family, University of Nebraska, 1967), p. 5.

[10]Helen Hollandsworth and Henry O. Barbour, Preparing Teachers and Instructional Materials for the Food Service Occupations, (East Lansing, Michigan: College of Education, Michigan State University, 1966), p. 3.

Another workshop was conducted and had the following criteria for selection for enrollees.

> Participants: Early in the spring, letters announcing the proposed workshop were sent to selected home economics teachers and supervisors in school systems, state departments of education, and institutions of higher learning in Texas, Arizona, Colorado, Oklahoma, Kansas, Missouri, and Louisiana. The February issue, 1965, of Tips and Topics carried an announcement of the proposed workshop to over 3000 professional home economists. Later in the spring, letters announcing the proposed workshop, and giving information concerning enrollment procedures and living facilities, were sent to an expanded list of home economics teachers and supervisors in school systems, and to all state departments of education and institutions approved to train vocational home economics teachers with the exception of those persons in neighboring states who had received the earlier letter. Members of this group who had been contacted in early spring, were sent a follow-up letter giving further detail.
>
> The enrollment in the workshop included 33 persons representing Texas, New Mexico, California, Massachusetts, Georgia, and Tennessee. Eight of the 33 participants hold current supervisory positions in city or state education departments, and six hold college positions. The other members of the group, while not currently assigned to supervisory positions, expect in the near future to assume leadership responsibilities for training programs in wage earning occupations. Several of the supervisors and two of the teachers had previous experience in developing programs for wage earning occupations.[11]

These criteria specified that home economics college-level teachers and home economics supervisors are associated with the who in the cube. The designing of location to the who qualification or description, or criteria, one might assume has to do with nearness to Lubbock, Texas rather than implying that the who criteria only exist in this area of the United States.

In still another training session, the criteria for attending the instructional program were that the applicant 1) had to be recommended by the state director of home economics; 2) had to be a certified home economics teacher; 3) had to be qualified for admission to the graduate school or be admitted as a special student; 4) had to have consent of the local administration; 5) had to have some evidence of need for an occupational preparation program in the area; and 6) had to be willing to devote five weeks to an instructional program.[12] Twenty-seven teachers enrolled in the program, and eighteen occupational programs were functioning in the fall of 1966.

In all four of the reported workshops, the main criterion for selecting participants was being qualified to teach home economics. In one of the four workshops, there was included other teaching personnel within the school structure. Most of the teachers had to be interested in attending workshops to prepare for teaching; it can be noted that most of the workshops cut across state lines. In at least two of the four, the enrollees had to be qualified to be admitted to a graduate school or college. The experience factor, except for currently teaching in a secondary home economics program, seems to be absent from the criteria of these participants.

To add to the seriousness of deciding who should qualify to teach the occupational preparation programs in home economics, let us examine just one set of teacher qualification requirements.

TEACHER QUALIFICATIONS FOR WAITRESS TRAINING PROGRAM

1. Teachers holding a life certificate to teach vocational home economics and those who have completed a two-year preparatory vocational or technical program relating to the occupational field they are teaching must have at least two years of occupational or other experiences contributing to job competence in the occupation being taught. Home management residence and management of one's own home may contribute to the work requirement in home management occupations.

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[11]Willa Vaughn Tinsley and Ann Buntin, Workshop for Administrators of Vocational Home Economics Training Programs in Wage-earning Occupations, (Lubbock, Texas, Texas Technological College, 1965), pp. 13-14.

[12]Anna M. Gorman, An Instructional Program for Teachers of Occupational Training Programs Utilizing Home Economics Knowledge and Skills, (Lexington, Kentucky: College of Education, University of Kentucky, 1966), p. 2.

2. Special teachers for occupational home economics may be approved upon the basis of their education and experience. The occupational experience shall have been three years or more, and shall have been of such nature and quality as to give a recognized status in the field. Resource persons within the community who might be approved for teaching individual courses in the program are a:
   a. manager of local dining room
   b. florist
   c. cosmetologist
   d. professional model
3. All full-time teachers of occupational home economics must have at least twenty hours of professional education, eight of which must be approved vocational teacher preparation appropriate to the level of instruction and to the occupational area to be taught.
4. Part-time instructors may be approved with less than the twenty hours of professional education, but will be expected to attend in-service programs appropriate for them.
5. Instructors approved to start teaching with less than the twenty hours of professional education will show plans to meet this requirement in a six-year period.
6. Non-college teacher training will be provided by persons approved for the responsibility by the State Department of Education.[13]

These qualifications have specified educational requirements plus experience requirements. Are many state plans and/or city plans including such criteria for teachers of occupational programs? If this is now a fact or becomes a fact, then, we must carefully evaluate and validate past experience of certified home economics teachers and their competencies in occupational teaching or we must design pilot projects to experiment with the variables associated with educational and experience requirements.

Other services can give us valuable clues in helping us decide who should teach the occupational home economics programs. K. Otto Logan wrote concerning the multiple roles of the teacher-coordinator:

> The success of any class depends largely on the teacher. In an elective course, such as in a cooperative program, the quality of teaching can mean life or death of the program itself. In a college-required academic course, the student has no choice but to attend classes, even if the teacher might be sarcastic, arbitrary, or unfair. A poorly equipped or inept D. E. teacher, on the other hand, would be left without a class and perhaps without a job if he lacked the ability and qualifications to make his classes instructive, interesting, and productive--so the whole program might fall by the wayside. I've seen this happen.
>
> Most states require, for certification, that a D. E. coordinator have, in addition to a degree, a minimum of two years practical experience in a distributive occupation. (This may vary, up or down, in various states.) The theory behind this requirement or standard is simply this: A teacher-coordinator will be far better prepared to present his instruction if he speaks from a background of experience in his field. This experience lends something in terms of respect and acceptance not ordinarily derived from book learning alone. Businessmen in a community quickly find a common ground of understanding and communication and as a consequence, readily cooperate fully with the aims of the distributive education program. Students, also, quickly recognize and respect an instructor who speaks with the authority of practical experience. Administrators must acknowledge the value of occupational experience and its importance for the success of a cooperative program.[14]

Thus, Dr. Logan emphasizes the great need for experience in being a successful coordinator of a program.

In an article in the Bulletin of the National Association of Secondary-School Principals, titled Vocational Education Time for Decision, Melvin L. Barlow wrote the following about teacher preparation in the trade and technical subjects:

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[13]Genevieve Schubert, A Sample Wage Earning Program for Waitress Training, (Milwaukee: Home Economics Division, Milwaukee Vocational Technical and Adult Schools), pp. 5-6.

[14]K. Otto Logan, "Multiple Roles of Teacher-Coordinator," Guidelines in Cooperative Education, (Columbus: Center for Vocational and Technical Education, Ohio State University, 1967), p. 127.

Pre-Service Training

Long before the Smith-Hughes Act was passed in 1917 the pioneers in vocational education gave attention to the teacher of trade and technical subjects and set high standards and suggested patterns for states to review as they developed their plans for teacher training. During the late summer of 1917 the Federal Board for Vocational Education held conferences with representatives of each of the states. Among the items discussed was the state's intent in the matter of pre-service teacher education. Each state was required to prepare its own state plan and was free to adapt any plan of teacher education appropriate to the state. The concern of the Federal Board was limited to determining that the state had a plan of teacher education and that it appeared to be sound.

High on the list of selective items was the actual background of work experience of the propsective teacher. He must have worked in the occupational area in which he intended to offer instruction; competency as a craftsman was essential. As one educator expressed the thought, "It is as difficult to teach something you haven't experienced as it is to return from someplace you have never been." The rationale was simple. If you wanted a teacher of automechanics you must first find a person who had worked for a number of years as an automechanic. Other considerations, such as academic achievement, were secondary and generally were not used to replace deficiencies in work experience. In short, the program catered to the employment of master craftsmen as teachers.

Over the years the principle of the centrality of work experience has not changed, but other requirements for trade and technical teachers have increased.[15]

The educational requirements for these programs have changed; but, through the years, the experience factor has remained steadfast.

The rules and regulations state two general requirements for teachers of occupational-preparation programs, namely education and experience. A great debate would certainly insue if the following question was raised: "Should occupational experiences come first, or should education of an individual be first, or should education and experience be realized by the individual at the same time?" Certainly teaching-learning principles and the organization of the programs for preparation of homemaking teachers place home economics educators in the position of recommending both education and experience as a blended whole for any teacher-preparation program. But, to date, the candidates (who) for most of the workshops on preparing teachers for occupational programs have been selected because they were certified homemaking teachers.

There may be many rationales behind this teacher-selection decision. One may be that of a philosophical nature; many believe in the education of a total individual and as such to prepare any individual for just the economic aspect of living is denying the individual of the right of a well-rounded education. A further rationale may be that homemaking teachers with their broad base of subject matter learnings, professional education learnings, and professional commitment to teaching, would be the individuals that, with additional educational and some occupational experiences, would be best suited to teach the types of occupational preparation programs related to home economics knowledge and skills. Another rationale, which may be operating, is that basically one proposes that the experiences gained in connection with becoming a home economics teacher have the variety and quality needed for occupational teaching to a greater extent than any quantity of specified experience at an occupation. Whatever the rationales are, this is a point of difference among the services in the approach being used to select candidates for occupational teaching.

Some of the other vocational services believe, to a large extent, the success of the teacher in an occupational program rests heavily on the experiences he has had in that occupation. Therefore, before we home economics teacher educators generalize on the requirements for who should teach the occupational programs, much more thought, action programs, and experiementation should be evidenced.

What Element

The what element of the cube refers to the content involved in the learning situation. As has been noted before, most of the persons selected to attend the

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[15]Melvin L. Barlow, "Curriculum Development and Improvement of Instruction," The Bulletin of the National Association of Secondary-School Principals, (Washington, D. C., Vol. 49, No. 301, May 1965), pp. 130-131.

occupational teacher preparation programs, have backgrounds for homemaking teaching. What additional content do candidates for teaching of occupational programs need?

Basically the workshops for preparing teachers have concentrated on three areas of content: subject-matter content related to the specific occupational cluster; extended professional-education content as it relates to occupational teaching, and vocational-technical-labor content.

The Nebraska workshop is an example of a program aimed at strengthening subject matter in the child development area for this group of high school teachers to better prepare them to teach for entry level occupations in child development. Five graduate credits could be earned and the courses were designed "to provide the trainees with an 'informational and theoretical' background as possible to draw upon."[16]

The extension of professional education content was present in all of the workshops. Some illustrations may help to explain this category. Teachers were taught to do job analysis as a means of deciding upon objectives. This is a slightly different focus for determining objectives, content, and learning experiences from basing these decisions upon interest, concern, and needs of learners. The participants learned to make occupational surveys which have a slightly different focus from the community surveys made for the homemaking program. The personnel and responsibilities of an advisory council for occupational programs were studied; this study involved many new understandings. The supervision of the extended-laboratory experience or the work experience aspect of the occupational program varies from the use of the laboratory in a classroom situation. The selection of trainees, evaluation of progress made, and follow-up of trainees were other professional-education content introduced. The workshops also focused on use of newer techniques for teaching individuals who may be very different from learners in the day-school and adult homemaking classes.

The vocational-technical-labor category of content is one where instead of just discussing the parts of the new vocational acts as they apply to home economics, emphasis was placed on total comprehension to all vocational services, cooperative programs, and cooperation among the services. Content regarding labor regulations, employment office functions, and social security regulations was introduced.

As one evaluates the content, a few questions could be posed for consideration. Just how much depth in a subject-matter field does a teacher need in order to teach for entry-level jobs? If most teachers of occupational programs are certified homemaking teachers, most of them already have from six to twelve semester hours in the content areas of home economics. Is this enough content to enable them to teach at a certain occupational level? Might not the recency of receiving the baccalaureate degree and the level of occupational teaching be better determiners of need for additional subject-matter content?

From reports made by the investigators of the workshops, one can question the assumption that homemaking teachers share a common background of basic educational learnings. In many cases, introduction of content involving the changed emphasis was not effective because of lack of, or dated, professional education learnings. One might recommend that the assumptions being used in programs of teacher preparation be clearly stated and that these assumptions be influencial on the criteria established for selecting the participants.

How Element

The how element of the cube refers to the experiences planned to secure individual learning. Without much question, one can generalize that a variety of learning experiences was planned for the participants in workshops. They observed, participated, and planned. They saw films, took field trips, conducted surveys, interviewed employers and employees, heard speakers, developed procedures, shared findings, drew up plans for facilities, equipment, budgets, explored the literature, etc. All of the experiences or activities seemed to be directly related to assisting the participants in realizing the objectives of the various workshops.

Before we relax and continue the types of learning experiences utilized up to this date, we must remember the "shaking up" we received from the findings of the Chadderdon, Coon, Ford, and Lehman studies.[17] One might voice a note of caution

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[16]Helen Sulek, Ibid., p. 7.

[17]Hester Chadderdon, Beulah I. Coon, Roxana R. Ford, and Ruth T. Lehman, Home Economics Teachers - Pre-service and In-service Levels, Their Interest in Teaching - Their Attitudes Toward Children and Families, (Minneapolis: Bureau of Educational Research, University of Minnesota, 1966).

related to the value of certain types of experiences and changing of various aspects of behavior. For example, if a teacher works at a job for a short period of time, she may 1) learn the tasks involved in the job, and 2) learn about employee-employee and employee-employer relationships; but, the teacher takes the job with a different objective than a trainee or a present employee. What kinds of experiences are needed to develop empathy for individuals enrolled in occupational programs?

Have we included enough determiners of quality teaching in our workshops?[18] What reinforcement experiences have we included? Some of our present occupational teachers say that it is a lonely job; they haven't anyone to talk with who understands the problems they are facing.

Another factor arose in the Kentucky Workshop. The inclusion of experienced with inexperienced occupational teachers created both an aid and a disadvantage in planning experiences. The experienced teachers made each discussion session very realistic; but, some experiences were repetitive for them and this tended to either cause the entire group to be moved at too fast a rate or it created the problem of insecurity within the inexperienced group. One might question the advisability of having this combination of teachers within a workshop because of the difficulty in planning appropriate learning experiences.

One huge crevice blocking the path of progress in planning experiences is the lack of centers for observation and participation in occupational classes. We have so very few occupational teachers who are prepared to be supervisors of student teachers. How are we going to complete or bridge the gap?

Where Element

The workshops have been held in university and college settings. This was probably done because of the availability of housing, of teachers, of references, of certain types of home economics facilities, etc. Where are most of our "bright and shining" occupational programs located? Where are most of the jobs? In the cities. Where are most of the state universities and colleges? In areas other than the cities of a state. This location dichotomy between programs for the learner and programs for the teachers may help to create the environment for ineffectiveness in both programs.

When Element

The "teachable moment" for certified home economics teachers seems to be during the summer, at least most programs for them occur during the summer. One can certainly question that "teachable moments" are summer oriented. To illustrate this point, some of the participants attended the workshops without having a commitment to start or continue an occupational program. They felt no great program pressure. One can also doubt if they have a state of internal tension which motivates the experience of learning. Would programs be more effective in utilizing the "teachable moment" if the new learnings were incorporated into the teacher's life as she was actually teaching the program?

Do "teachable moments" for the preparation of occupational teachers only occur with certified home economics teachers? One might encourage teacher educators, with colleges and universities located in populous areas, to experiment with undergraduate majors being certified for occupational teachers. Some other "teachable moments" might be discovered if a teacher-coordinator type of program was instituted where certified teachers and teacher aides would do the teaching. The teacher aides might be individuals with job experiences.

SUMMARY

The examination of the elements of a learning situation has been performed. The diagnosis of the learning situations used to date are satisfactory. But, the problem of the need to prepare teachers for occupational preparation programs is still critical.

Upon the horizon are some innovative ideas being developed to assist in bringing life into the critical problem of teacher supply. The opportunity to rethink the problem occurred at a workshop at Iowa State.[19] Here are some of the ideas that may

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[18]John B. Carroll, "School Learning Over the Long Haul," Learning and the Educational Process, (Chicago: Ran McNally and Co., 1965).

[19]Alberta Hill, "Institute for Home Economics Teacher Educators," (Ames, Iowa: College of Home Economics, Iowa State University, Summer 1967).

soon become a reality. Watch for--1) the "Audio-tutorial Kit for Home Economics Education" being developed by Mrs. Grace Granberg, University of Washington; 2) a film "A Look at Gainful Employment Education in Home Economics in California" being developed by Mrs. Dorothy Stone, State Department of Education; 3) the "Plans for Teacher Preparation" being developed by Mrs. Helen Nelson, Cornell University; and 4) "Preparing Teachers for Home Economics Related Occupational Programs" being developed by Mrs. Marie Meyer, Rutgers University.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Patricia Smith*

It's impossible for teachers to have actual experience in the many occupational areas of home economics so programs should be geared to the needs of a particular type of teacher. General teacher education programs can focus on such aspects of occupational preparation as knowledge of industry, the world of work, economics, etc. The question was raised relative to how much depth in a subject matter field is needed by a teacher in order to prepare students for entry level jobs. This prompted a discussion of content-occupational, professional and vocational preparation. Also experiences gained when becoming a homemaking teacher may be of more value and of better quality than any occupational experience a teacher can obtain.

Participants expressed concern for attacking such problems as 1) preparing leaders and supervisors in occupational areas, 2) when to provide in-service training for teachers, 3) where wage-earning programs should be located, 4) how to teach empathy for certain occupations, 5) if students of various ability levels should be mixed while being trained and 6) where to find appropriate observable situations.

Reference was made to materials available relative to the preparation of teachers for occupational programs, and to the fact that funding agencies are looking for the "team approach" in solving problems. Teachers of occupational programs are expected to prepare competent workers but they are also concerned that the worker will receive satisfaction from the job because satisfied workers are more productive. This has implications for guidance and the interrelationship of family life and occupational programs.

The participants suggested that home economics teacher educators should be more involved in setting up criteria for selecting candidates for participation in occupational preparation workshops. This should be written into the proposal and approved before funds are granted for such workshops. More emphasis must be placed on occupational programs in pre-service programs. There is a need for teacher educators to serve and be involved in other areas of home economics.

Research needs include: developing criteria for different levels of teachers for occupational programs; a study of the process of research; what has been done and what can we build on; and to become aware of what other fields offer which has bearing on home economics. Experimental programs which can be used for observation purposes and developing the "team approach" need consideration. A job analysis must be completed on each home economics occupation which includes the total range of competencies required.

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APPROACHES IN PROVIDING AND UPDATING OCCUPATIONAL EXPERIENCES FOR TECHNICAL TEACHERS

Robert M. Knoebel*

Greetings and best wishes to you! It is a genuine pleasure to meet with the participants of this National Vocational-Technical Teacher Education Seminar. We are here to consider a very significant phase of education--that of preparing and updating occupational experience for technical teachers. Two definitions are in order before we examine our assigned topic:

1. Technical education as used in this paper shall refer to programs designed to prepare individuals for work in occupations between the skilled worker and the professional worker, usually on the spectrum close to the professional employee. The occupation need not be labled "technology" nor confined to the engineering fields but does include the life science fields, agriculture and medical, and other fields where workers with comparable skill and knowledge are required.
2. Occupational experiences will be considered as experiences obtained through gainful employment in a technical occupation or other experiences through which occupational "know-how" is obtained or strengthened.

Formal education is an extremely complex process. Technical education in our public and private educational institutions is no exception. The depth, scope, and variety of curricula demands, the complicated administration and staffing structure; the new emerging teaching techniques; the great challenge to meet the needs of a wide range of individual differences are a few of the aspects demanding attention.

The significance of qualified teachers cannot be overemphasized. The most important single element in a technical education program is the teacher. Therefore, it is very appropriate that we should endeavor to identify viable alternates for improving programs for the preparation and upgrading of the occupational capabilities of technical teachers. To what extent we provide occupationally qualified teachers to meet instructional demands determines to a large degree the success of our technical education programs.

The comments in this paper relative to approaches in providing and updating occupational experience for technical teachers are recognized as not being new or exhaustive. However, it is hoped they will be thought provoking and will be a stimulus for discussion and become action starters for effective technical teacher education programs.

A brief review of some of the characteristics of successful teachers of technical subjects may be helpful:

1. They have a real concern for the welfare of students.
2. They are enthusiastic about teaching.
3. They are progressive, self evaluative, they grow professionally, and are occupationally alert.
4. They are willing to work--they plan, they prepare and they organize their efforts.
5. They know how to pass their knowledge and skills to others.
6. They have acquired essential general education and the math and/or science necessary to teach their specialty.
7. They are knowledgable and skillful in the occupation being taught--they have a reservoir of knowledge and skill beyond that required for the technician. They are occupationally competent.

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The two major questions to which we are to direct our attention are: How can persons be occupationally prepared for technical teaching; and then, how can such teachers be kept updated occupationally?

There are no simple answers. If the answers were evident, we would not be here today. Let me hasten to say that I do not have the answers--it is hoped that together we may find some answers and develop meaningful guidelines for preparing and updating occupational experiences for technical teachers.

Some people seem to feel that teachers can be occupationally competent without employment experience in the occupation or occupations related to the subject being taught. Most successful administrators of technical education programs do not share this view point. My own feeling is that experience in the occupation to be taught is a must--how this experience is obtained and the duration of such experience are variables.

Let us briefly review some of the activities in the technical teacher education field in our country. I hasten to add that this is not intended to be a complete coverage but it is indicative of efforts underway. It appears as though a number of program types are emerging. Here they are:

1. The traditional vocational trade and industrial teacher education programs are being used extensively. They are continued with the addition of one or two courses to make the curriculum "technical" or they have been continued without any material change except the name. Many teacher educators have said, "After all, there is little or no difference between the requirements for teaching technical subjects and the skilled trades." Do you agree?
2. A number of universities have established graduate programs whereby teachers and administrators may specialize in technical education. These programs are particularly valuable in assisting teachers to strengthen administrative capabilities and to build that reservoir of mathematics, science and specialized subject matter so essential for effective teaching of technicians. However, generally speaking, these programs have not provided either the preparatory or updating occupational experiences so essential for the technical teacher.
3. Another type of program has emerged that has been developed around the concept of using the two-year post secondary technician education program as the basis for preparing teachers of technical subjects. Primarily, two approaches are being followed in these programs in an effort to provide occupational experiences: a.) occupational employment is arranged for a minimum of four summers or equivalent; b.) graduates are expected to secure occupational experience before enrolling for technical teacher programs, following completion of teacher education degree work, or prior to assuming a teaching position.
4. Summer institutes, seminars, clinics and other relative short, intensive programs have been used on a limited basis to fill a void of actual occupational experience in the career of technical teachers. These sessions have served both pre-service and in-service teachers. They are recognized as a supplement to and usually they are not intended to supplant actual occupation experience.

There are many techniques or plans by which the occupational experiences of technical teachers may be strengthened. It is assumed that the mention of only some of these procedures will suffice for the purpose of this paper:

1. Reading pertinent literature of the field--magazines, books, and manuals.
2. Membership and active participation in the appropriate technical, scientific and professional organizations and societies.
3. Actual summer or other full-time employment every two or three years in the occupation being taught.
4. Planned visits to employers of technicians to observe current techniques.
5. Planned visits to institutions providing outstanding programs in subject area.
6. Films and video tapes showing processes and procedures.

It seems to me that the outstanding technician--the top flight graduate of the two-year technical program--provides the greatest promise for filling the occupationally qualified technical teacher gap. The challenge to us is very evident--how can the students with the makings of a well-qualified technical teacher be: a.) encouraged to prepare for teaching; b.) provided with essential subject matter capabilities; c.) assisted with the acquisition of appropriate occupational experiences; d.) furnished teaching know-how.

Also, it is my firm belief that persons employed in the technical occupations continue to be a significant source of occupationally competent teachers for technical

programs. Some of the factors requiring attention in order to further utilize these persons are:

1. Development of valid techniques, instruments, and procedures for evaluating capabilities of employees with technical qualifications.
2. Improvement of procedures for providing essential pedagogy and for strengthening their knowledge of specialized subject matter.
3. Refinement of recruiting procedures.
4. Determining to what extent persons with certain occupational competencies can be used as teacher aides; or used as teachers on a part-time basis?
5. Provision for obtaining academic respectability for those who may not have B. S. or M. S. degrees.

What is the place of educational technology in this whole matter of providing occupational experiences? Programmed texts; individualized learning carrels; film cartridge; simulated devices; and computer assisted instruction. Can these be used for the occupational preparation and updating of technical teachers?

Can part of this problem of providing occupational experience be handled through the use of teaching aides? There are many thousand teacher aides being used this year. What implications does this movement have for technical educators: Should we have programs for preparing technical teacher aides to better assure occupational competence in the classroom and laboratory?

Another type of program that warrants our attention is that of teaching internships coupled with occupational experience--field assignments. It has been said that internship with master teachers is the wave of the future. This type of program should be thoroughly explored.

We have considered some of the elements and characteristics of procedures for providing occupational experiences for persons preparing to become technical teachers and for updating such experience for employed teachers. Now we come to a most serious problem. From whence cometh the leadership essential to provide technical teacher education programs for assuring necessary occupational experiences, to meet current and future demands for well qualified educational manpower? Will the leadership come from the universities, the state departments, the U. S. Office of Education, the community colleges, or where?

The feeling of some of us is well expressed in the following quotes:

> Our school organization, our training of teachers, and the methods of instruction implement tradition of the past, ignoring unfolding knowledge that would update and improve.[1]

> The pertinent question is that we face grave, new confusing questions. What kind of teacher education must we have? How are schools going to change? As schools change, how will the type of teacher best able to fit into these new schools be prepared? We talk glibly about change, yet it is with feeling of tragedy that we look at higher education and realize how little it has changed since the turn of the century. Greater efforts should be made to involve public school teachers significantly and responsibly in developing and carrying out teacher education programs. The point is this: education and experimentation in teacher education should set the stage for changes to happen in the public school.

> Many of the teacher educators have become frustrated and gone elsewhere to exercise their talent and initiative. This has been the result of endless routine and red tape and academic limitations. Teacher preparation programs must be given more autonomy. They must be freed from stifling bureaucracy which inhibits higher education and be permitted to develop programs for tomorrow's schools. Schools of medicine, law, or architecture are generally quite independent in developing their professional programs.[2]

Is the lack of autonomy for teacher education programs in the universities the reason for our real shortage of technical teacher education programs? Would a

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[1]Henry Osibov, "Quest for Educational Innovation," (Guest editorial), (California Journal of Educational Research 12:194, 223,) (November 1961).

[2]Arthur F. Corey, "The Changing Role of the Teacher," (Presentation, July Rally of the Year of the Non-Conference, National Commission on Teacher Education and Professional Standards, St. Paul, Minnesota,) (July 1, 1967).

technical education center, other than a university or college, serving an area or region be the answer to our problem of technical teacher education and leadership development of which the provision for occupational experiences is an essential function? Should such a center be operated cooperatively by a number of universities? What would be the place of state departments of education in the operation of a center? How would such an effort be financed? Could academic status--degrees--be awarded? To what extent would certification requirements influence the success or failure of such a center?

It might be said "all we need is money to solve all the problems related to assuring an adequate supply of occupationally competent technical teachers." Money for salaries to attract persons to the teaching profession. Money to provide financial support for persons enrolling in technical teacher education programs. Money to adequately finance centers for technical teacher education and leadership development. Is money the answer?

Whatever the answer may be, the major responsibility for meeting the demand for programs essential to provide preparatory and updating occupational experience for technical teachers lies with teacher educators and state technical education personnel. If conditions are to be improved and needs really met, the impetus and support must come from those two quarters. Bold new thinking, imagination and radical changes in our concepts are needed.

The words of Stanley M. Elam[3] are most appropriate for closing "Initiate, renovate, and innovate, gentlemen and damn the torpedoes. We are convinced that inertia is still more dangerous than faddism, given the kind of people we have in education."

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[3]Stanley M. Elam, "The 1/D/E/A-USOE Innovation Seminars," Phi Delta Kappan, Volume XLIX, Number 1,) (September 1967).

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SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

James G. Bennett*

In depth studies are needed to determine what type of work experience really contributes to the teaching effectiveness of technical teachers. We also need to determine how technical teachers can best acquire this experience. This latter question will involve a review of the present experience programs--cooperative work experience, pre-service work experience, summer employment, instrumentation seminars and teacher-aids seminars.

The updating and upgrading of in-service teacher training programs is also important. Greater use of business and industrial consultants is desirable if programs are to achieve the goal of making technical teachers occupationally competent. The utilization of business and industry personnel in in-service programs has been accomplished in many institutions. Wages for these personnel have been provided on a cooperative basis between the participating industry and the college. Other ways of updating teachers are through teacher institutes, printed materials, in-plant (business) visitations and demonstrations, industry sponsored institutes and conferences.

Another group of individuals that need updating concerning technical-teacher preparation are administrators of teacher education institutions. They need information concerning technological advancements.

In general, public vocational schools are shackled by traditional educational requirements such as Carnegie units, course length, course pre-requisites etc. Certainly private schools have much more flexibility.

In the future we can look forward to occupational competency tests as such tests are currently being developed by the educational testing service at Princeton in cooperation with Rutgers, the State University.

The organization that is best equipped to insure that technical teachers get good occupational work exposure and experience is the State Education Department. Certainly teachers and state certification bodies can help in this task.

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OCCUPATIONAL EXPERIENCE AND PREPARATION OF TRADE & INDUSTRIAL TEACHERS

Durwin M. Hanson*

It is a pleasure to have the opportunity to attend and participate in this meeting of the National Seminar on Vocational Teacher Education. This session is of particular interest since I'm certain we all share the same concern for preparing and up-dating teachers of trade and technical subjects. The title of the paper I was asked to prepare was "Ways of Improving the Occupational Experience Requirement in T & I Teacher Education Programs." I apologize in that reviewing the material regarding preparation of T & I teachers little evidence appears that proves any one technique as being superior in preparing a "better" T & I and/or technical teacher. Thus, with your permission, I will reserve my remarks to "Some Ways of Preparing and Keeping T & I and Technical Teachers Up to Date".

Following the passage of the Smith-Hughes Act the first aid in administrating the Act, a "Statement of Policies for the Administration of Vocational Education," Vocational Education Bulletin No. 1 was printed and issued in 1917. Due to new provisions in subsequent federal legislation as well as social, economic and technological changes, and experience factors related to the administration of federally aided programs of vocational education, Bulletin No. 1 has been revised a number of times including the current 1966 revised edition. As you review previous editions of Bulletin No. 1, you will note the changes as related to teacher training. As we discuss teacher training in trade and technical education it is interesting to compare the Bulletin No. 1, 1948 Revised Edition with the 1966 Revised Edition. Bulletin No. 1, 1948 Revised, (pp 73-74) stated "The training of teachers is an essential and important part of a state program of trade and industrial education. The effectiveness of the teacher-training program will, to a large extent, determine the effectiveness of the program operations in the state and in local areas.

When planning and conducting the teacher-training activities of a state, the following factors should be taken into consideration:

1. In order to receive the benefits of the appropriations in the acts for the training of teachers, supervisors, or directors, the training shall be conducted under the supervision of the state board.

2. Such training shall be given only to persons who have had adequate vocational experience in the line of work for which they are preparing themselves or who are acquiring such experience.

3. Professional training should be provided for persons who have entered upon or are preparing to enter upon the responsibilities of: a.) Teachers and coordinators of trade and industrial subjects; b.) Supervisors and teacher trainers of local and state trade and industrial education programs; c.) Administrators of local and state school systems who need information on and an understanding of the purposes and methods of trade and industrial education; and d.) Conference leaders and job instructors for industrial plants or other organizations employing persons engaged in trade and industrial pursuits."

In Section (c) of 104.19 Program of teacher training (pp. 20-21) Bulletin No. 1, 1966 Revised Edition the following statement is made: "1) The State Plan shall provide for teacher-training programs (both preemployment and in-service) to the extent necessary to provide qualified vocational education personnel. The State Plan shall

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describe the state board's plans for the development of teacher-training programs with information on the types of expenditures and the types of teacher-training programs to be included, and the standards and requirements designed to develop and maintain programs of such character and efficiency as are needed to provide an adequate supply of qualified teachers and other vocational education personnel; 2) Vocational teacher training supported with funds under Smith-Hughes, George-Barden, and supplementary acts, will be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers and other vocational education personnel, or who are acquiring such experience or contact as a part of their training." It is noted, that, other than statements regarding funding of teacher training programs, no specific reference is made to trade and industrial education teacher training.

The funds provided in the Smith-Hughes Act stimulated the states to provide or extend programs for training vocational teachers. The teacher training program since 1917 has played a significant role in the development of vocational education and has resulted in continually improving standards in the program. These have included the improvement of the general and technical instruction offered in colleges, the quality and nature of the supervised teacher experiences, the qualifications of teacher education personnel, the upgrading of teachers in service, and the ultimate improvement of vocational instruction for students in high school, post-secondary schools and for adults.

Vocational teacher education has had a very strong influence along with supervision in the improvement of instruction in vocational education through the medium of organized class instruction, conferences, demonstrations, field studies, visits to local schools, workshops, preparation of teaching materials, making of studies and by other means.

Since the key to the teacher training program in any of the vocational education teacher training areas rests with the state plan it is not the intent of this presentation to evaluate any of the on-going attempts to prepare teachers for trade and technical education.

Traditionally, in trade and industrial education, the pattern has been to offer in-service training to the trade or technical teacher who has entered the vocational education teaching profession. Until recently, few of us have had any sizable enrollment in pre-employment teacher-training programs. Perhaps among the early attempts to encourage individuals from labor to enter the trade and industrial education teaching profession was for colleges and universities to recognize and adopt policies whereby college credit could be granted for trade and/or work experience. A recent study regarding the granting of college credit for work experience was completed by Mr. Donald Lauda. Lauda[1] in 1964 reported that of 41 institutions, responding to an inquiry on the subject of college credit for work experience, 27 institutions indicated that they had programs with provisions to grant credit for work experience. The amount of credit (total semester or quarter hours) granted, techniques for evaluation, and policies regarding residence requirements, tuition charges (fees), enrollment, and other certifying factors varied among the 41 institutions. In a further study by Lauda[2] it was reported that of 201 institutions offering programs in industrial education a total of 49 colleges or universities recognized and granted college credit for trade or industrial experience.

In addition to the college credit programs for trade experience, a number of colleges or universities initiated programs whereby occupational experience has been provided through a cooperative training program. Again, the approach to certifying teachers under a college or university cooperative work experience--teacher training program varies in the procedures for admitting students, means of evaluating work experience, scheduling of on-the-job activity and class work, amount of credit awarded for work experience and other factors. W. A. Ramp[3] reported on cooperative trade and teacher training approach and the role of the two-year technical institute in preparing

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[1]Donald P. Lauda, "College Credit for Work Experience" (Unpublished paper presented to the Industrial Education Department, Iowa State University of Science and Technology, Ames, Iowa, February, 1964). (Ames, Iowa, Department of Industrial Education, Iowa State University of Science and Technology) (1964).

[2]Donald P. Lauda, "Factors Related to the Granting of College-University Credit for Trade and Industrial Experience in Institutions Offering Industrial Education" (Ames, Iowa, Iowa State University of Science and Technology) (1966).

[3]W. A. Ramp, "Cooperative Trade Teacher Training, Trade and Industrial Teacher Training," American Vocational Journal 37:30 (March 1962).

teachers for trade and industrial education. In a recent brochure, Eastern Kentucky University announced an associate degree program in Vocational--Industrial and Technical Education. The two-year curriculum combines trade experience with general education and technical education. It is stated in the brochure that, "the primary purpose of this program is to prepare persons, with a minimum of three years of approved trade experience, to teach trade and/or technical subjects." Rutgers University[4] recently announced a cooperative occupational pre-teaching experience program which will include 5000 hours of on-the-job experience.

In 1966 the University of Tennessee in cooperation with Oak Ridge Associated Universities and the Oak Ridge Y-12 Plant initiated an in-service Vocational-Technical Teacher Training Institute. The two-year program was designed to provide instructors and prospective instructors an opportunity to take methodology courses, devote time to the shop and/or laboratory areas assigned to the teachers and to take related courses in theory and technology.

An internship program in Vocational-Technical Education at Michigan State University provides another pattern as a means of supplying trained teachers. Included in the qualifications for admission to the internship program are recent successful occupational experience in an area of vocational-technical education, educational background, interest in teaching and other factors concerning maturity and integrity. College credit is allowed for previous occupational and educational experience.

In this brief review of some of the existing patterns of providing training and education for the purpose of meeting the demands for trade and technical teachers, it is interesting to note that work experience remains as an important component of the program. It is also evident that provisions for up-dating instructors is recognized as an integral part of the teacher training program. The list of local, state and national institutes, workshops, clinics, etc. for trade and/or technical teachers is expanded each year. Sponsorship varies from full funding by federal sources to local community or local school support.

In addition to the aforementioned institutes, workshops, etc., a number of states have policies whereby trade and/or technical instructors may return to industry during the summer months without loss of pay. The program, generally, is planned on a two- or three-year basis so that no more than one-third of the faculty is away from school during a given year or summer. Since this arrangment means that the reduction in faculty places an extra load on those remaining on duty, an alternate method would be to consider the organization of a cooperative industry-school exchange program. Under the exchange program it would not necessarily be limited to summer months. The caution is that such an exchange program must be carefully planned to insure that the industrial experience for the instructor would provide meaningful training and knowledge. The mere return to industry without a planned program may provide no more than a token of the experience desired. Likewise the training of the exchange person from industry must be an important part of the program. The industrial-exchange individual must be oriented to his role in the vocational teaching profession.

The organization of statewide regional meetings provides another opportunity for trade and technical teachers to up-grade and up-date themselves. In some cases, the teacher training institution supplies resource individuals to work with the teachers. The planning of regional wrokshops, etc. in conjunction with the trade and/or technical professional organization or society meetings may provide a means of keeping up to date, not only in the technical knowledge and information, but, also in professional development.

It is evident that some excellent work is being done in teacher education institutions to improve the quality of the instruction for those who are preparing to become teachers of vocational subjects. This type of activity is constantly being expanded and generally improved.

A principal change that has improved the quality of college instruction has been the modification of course offerings to make them more practical and applicable to a specific vocational field. Vocational teacher educators and supervisors have worked with subject-matter departments of the teacher education institution to revise certain technical courses for the purpose of having them better meet the needs of those preparing to be vocational teachers. Field, laboratory, and on-the-job experiences likewise have made possible worthwhile activities with a major vocational emphasis. Colleges and universities have been very cooperative in these and other modifications of programs. However, there is still a need to continue to improve the technical and

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[4] _____ "Happenings in Industrial Education--Co-Op Teacher Training Program for Vo-Ed Initiated at Rutgers," School Shop, Vol. XXVII, No. 1:36-37 (September 1967).

professional preparation of teachers of vocational subjects, not only for those who are preparing to teach but also for those who are already employed as teachers.

A continuing problem in vocational education is that of providing an adequate supply of well-prepared teachers, supervisors and administrators. Each year there are shortages in each category in most vocational education fields. For instance, many of these persons who normally would qualify for teaching because of their occupational experience and their technical and professional training are also qualified to serve in many other fields of work. As a result, many of the qualified persons each year accept other employment and are thus lost to the vocational teaching field. To meet the annual demand for teachers to replace those who leave the field and to provide for the continued expansion of vocational education, it has been necessary to step-up recruitment programs. However, there is a need for further expansion of recruitment programs and there is evidence that current legislation may give support to such programs.

There is likewise a need to evaluate carefully those persons who wish to enroll for preparation as vocational teachers. Individuals who are not qualified emotionally or technically to prepare for vocational teaching should be guided into some other program where they may render greater service.

In the years ahead there will be an increasing need for the development of certain types of teacher education programs for areas larger than a state. Some of the smaller states will need to combine their resources and establish one strong professional education program that can serve several states. There is likewise a need for the states to cooperate in the development of one or more functions of teacher education, such as the development of instructional aids and materials, research and workshops for supervisors and administrators.

In closing this story seems appropriate:

Many years ago a wise man traveled the countryside and everywhere he went he was well recognized for his knowledge and the fact he was never wrong. A young man in one of the villages became quite concerned about the wise man's knowledge and the fact that he was always right. In thinking about the problem the young man declared to his friends, "Finally, I have a scheme of trapping the wise man into being wrong. My plan is to catch a bird, hold the bird in my hands and in questioning the old wise man as to what I have in my hands it is apparent he will rightly guess. But when I ask the wise man if the bird is dead or alive, I'll have him trapped. If the wise man says "dead," I'll merely open my hands and let the bird fly away. If the wise man says "alive," I'll squeeze my hands and present the wise man with the dead bird."

The day arrived for the visit of the wise man to the village. As planned, the young man caught a small bird, held the bird in his hands and began his series of questions. As response to the question of what the young man was holding in his hands, the wise man, after some thought, replied, "a bird." Now the "trap question" as to whether the bird was dead or alive was presented to the wise man. Without hesitation the wise man replied, "young man, the fate of the bird is in your hands."

Thus, it is with the preparation of trade and technical teachers, the fate is in your hands.

SUMMARY OF REMARKS AND DISCUSSION OF PARTICIPANTS

Ray Reisenger*

The opening discussion centered upon legislation before Congress and the influence upon vocational education which might follow enactment of the new laws. The Education Professions Development Act (PL 90-35) was reported to open the way to more funds to give greater impetus to training teachers in the T & I field as well as in all teacher education. A proposed revision (HR 85-25) of the Vocational Education Act of 1963 provides for a Fellowship and Exchange Section, permitting teachers to return to industry or persons from industry to enter college to prepare as teachers. The Exemplary and Innovative Programs incorporated in the Vocational Education Section of HR 85-25 had some features which were important to the T & I discussion group. From the discussion, it appeared that support was very nearly assured for:

1. Exploratory occupational guidance programs in the world of work in the grade schools and the early secondary school experience.

2. Making the vocational work study programs a part of the regular curriculum offerings.

3. Developing the guidance program to be as effective in work placement as it presently is in college placement.

4. Dissemination of feedback on innovations to the schools and to the present curriculums.

Several approaches to the pre-service and in-service training of teachers were discussed. The Rutgers Cooperative Program for training T & I teachers was described. Supervised and planned work experience was the route prescribed for students to obtain occupational competence in the Rutgers Program.

Also mentioned was the in-service teacher education program at Oak Ridge, Tennessee (Oak Ridge Association of Universities) where several universities are using an industrial setting and staff to increase the output of T & I teachers. ORAU is coordinating this teacher education program in cooperation with industry.

The need for data processing teachers was reported to have influenced data processing equipment manufacturers and teacher educators to work together to develop training programs for teachers. Summer institutes, workshops, seminars and courses in data processing were offered by industry and teacher educators cooperatively in an effort to meet this need.

Exchange programs with industry seemed to have had good results. T & I teachers were reported to be moving back into industry to work summers and industry was in some cases supplying teachers for short periods of time. The teachers who participated in those programs received salary increases. Some of the T & I teacher trainees who were attending pre-service teacher education classes had received stipends for their class attendance. In addition, collegiate credit was reported as an important inducement in encouraging T & I people to consider teaching as a career. A continued interest persisted in ways to meet the needs for new teachers through innovation.

Some concerns which were mentioned as deserving the attention of the group were:

1. How can the teacher's level of manual skills be improved?

2. How can the teacher's technical knowledge be improved?

3. How can the teacher's professional competencies be improved?

A relationship was cited between success in vocational-technical teaching and personal characteristics. However, it was suggested that more research needs to be done in this area.

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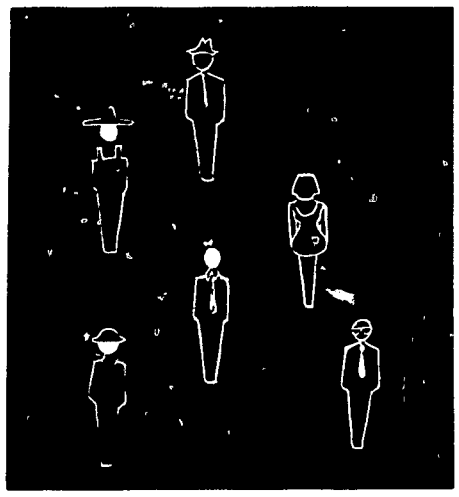
*Ray Reisenger is a research associate at The Center for Vocational and Technical Education, The Ohio State University.



SPECIAL INTEREST GROUP SESSIONS

EDUCATION FOR TEACHERS OF:

HIGH SCHOOL
POST-HIGH SCHOOL
ADULT
SPECIAL NEEDS
LEADERSHIP DEVELOPMENT

EDUCATION FOR VOCATIONAL-TECHNICAL HIGH SCHOOL TEACHERS

Special Interest Session Report

TASK FORCE PERSONNEL

Session Leaders: Monday, C. C. Scarborough, professor and head of agriculture education department, North Carolina State University.

Wednesday, Vernon Musselman, professor of education, University of Kentucky.

Thursday, Helen A. Loftis, professor of home economics education, Winthrop College, Rock Hill, South Carolina.

Resource Person: James W. Hensel, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: Cecil H. Johnson, research associate, The Center for Vocational and Technical Education, The Ohio State University.

EMERGING APPROACHES TO PROFESSIONAL EDUCATION OF VOCATIONAL AND TECHNICAL TEACHERS

Cayce C. Scarborough*

The notes that follow are impressions of the chairman that cover the highlights of this session.

1. The across-the-board approach to vocational teacher education often discussed and recommended has a number of built-in difficulties. In many cases, teacher education in the various vocational areas is not found in the same college or university; in many states these programs are literally scattered throughout the state. Some statewide structure is needed, at least for communication, maybe a state council on VTE.

2. Certification requirements may also contribute to the above difficulty. Some certification requirements at the graduate as well as undergraduate level emphasize subject matter at the expense of professional education; thus, it is difficult to include courses in other vocational areas even when available.

3. Apparently there are still many in the group who question the value of the micro-, mini- and other "sample teaching." Certainly it was agreed that any use of any of these approaches could not replace student teaching and other real-life experiences for developing professional competency. As one teacher educator who had been involved in rather extensive use of video tapes and related techniques said that he liked it, the students liked it, but as yet they had not been able to secure evidence that these approaches had resulted in more competency on the part of students as they started their teaching of regular classes.

4. More research and pilot programs are needed on the amount of time and place in curriculum for student teaching and other planned experiences.

5. Further consideration and study is needed in evaluating past work experiences of the teacher education student. Also to what extent and in what way can work experience be made part of the curriculum of every prospective vocational teacher.

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*Cayce C. Scarborough is professor and head of Agriculture Education Department, North Carolina State University.

6. There seemed to be complete agreement that the high school is an appropriate place for much vocational education. It was noted that the NASSP Report as well as some leading psychologists advocated vocational education for all high school students. The challenge to the vocational educator seems to be that of helping determine what is the most appropriate vocational education at the high school level. Counseling students so that they, individually, enroll in the vocational course best suited to their needs is a major problem.

RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT EDUCATION

Vernon A. Musselman*

HIGHLIGHTS OF THE DISCUSSION

1. Teacher educators must consider the need for developing programs which will prepare teachers to teach a program designed for a cluster of occupations.

2. Basic courses in subject matter areas may not necessarily relate directly to vocational and technical education.

3. Many content courses offered in college programs no longer prepare teachers with the skills needed in teaching vocational and technical education.

4. Teacher educators should be supporters of general education.

5. Requirements in the major field should have increased flexibility--in other words a trend away from the requiring of a designated number of courses in each of many fields; such as, six hours from horticulture, six hours from selected animal sciences, etc. One pattern cited is that of requiring a minimum number of specific courses which make up a common block with the student selecting electives within the major field. Within the elective courses he would select sufficient courses within one of five optional areas to constitute a minor in that area.

6. A number of institutions are encouraging the completion of a B. S. degree in one's respective college and then entering a teaching "internship" for pay and taking professional education courses during the internship period. Several plans seem to fall within the pattern of full-time study for two consecutive summer sessions and spending the two semesters between these summer sessions in full-time teaching combined with part-time study. Several of these plans award the master's degree at the end of the period--two summers and two semesters.

IMPLICATIONS FOR TEACHER EDUCATION IMPROVEMENT

1. Teacher trainers should consider the use of advisory committees in planning teacher preparation curricula.

2. Teacher education courses should relate to behavioral and social sciences.

3. In-service courses should relate directly to vocational and technical education.

4. The reorganization pattern of institutions into larger colleges such as biological sciences may result in courses more agreeable or acceptable for teacher education.

5. More use is being made of speakers and demonstrations from business and industry. In some cases these were correlated with class field trips into business and industry.

6. In-service sessions in teaching methods are being taught by professional education staff members for graduate assistant instructors in the major content fields.

7. More use is being made of staff members from the major content fields as teaching partners along with professional education staff in the in-service courses for teachers in the field.

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*Vernon A. Musselman is professor of education at the University of Kentucky.

SUGGESTIONS FOR ACTION OR IMPLEMENTATION TO IMPROVE VOCATIONAL-TECHNICAL TEACHER EDUCATION

1. Team teaching among educators and technical subject matter specialists should be considered in providing subject matter content for prospective teachers.

2. In order to enable future teachers to enroll in technical subject matter courses early, these courses should be offered during the first two years as well as the last two.

3. Each service area should make an effort to understand and appreciate commonalties and uniqueness of other vocational and technical areas.

4. Instead of having students take separate courses in sociology, anthropology, etc. have them enroll in integrated courses in the behavioral sciences where staff members from the respective fields make contributions. A variation of this practice was that of having staff members from the behavioral sciences participate in the professional education courses.

IDENTIFICATION OF FUTURE NEEDED RESEARCH

1. Experimental research in addition to action research is needed in determining certification requirements.

2. Determine how colleges get feedback as to effectiveness of programs and techniques.

3. How can supervisors work effectively with increasingly larger numbers of teachers?

4. What constitutes the best distribution of coursework for vocational teachers--how much in the major content fields, how much in professional education, and how much in related disciplines. NOT what are current practices, but what is best for preparing teachers.

5. Which is better: separate courses in economics, sociology, and anthropology, or integrated courses in the behavioral sciences area?

6. What subject matter courses should be upgraded from the high-school level to the post-high school level?

7. How valid and valuable is cooperative work experience, both for secondary school youth and persons at the collegiate level?

IDENTIFICATION OF NEEDED EXPERIMENTAL, DEVELOPMENTAL, OR PILOT PROGRAMS

1. How do you adjust certification requirements to certify teachers for the new programs which have developed since 1963?

2. The function of future teachers must be identified and programs may be constructed to adequately prepare teachers to fill this function.

SUGGESTIONS FOR TOPICS OR SESSIONS IN FOLLOW-UP WORKSHOPS OR SEMINARS

1. How to develop leadership and improved teaching methods in the major content fields.

2. How to help teachers at the high-school level initiate change.

3. How to build sequence in courses in the subject matter fields.

4. How to bring about coordinated and cooperative working relationships between staff members in professional education and the major content field.

INNOVATIVE APPROACHES IN PROVIDING OCCUPATIONAL EXPERIENCES FOR VOCATIONAL AND TECHNICAL TEACHERS

Helen A. Loftis*

Teacher educators were divided into three groups for discussion. To insure a distribution of the service areas representatives in each group, an arbitrary assignment was made by using a show of hands to identify areas. Discussion in each group was led by a member of the Task Force.

The chairman posed four questions to be answered in the first half of the discussion period. These questions were:

1. What purposes should occupational experiences serve in the preparation of vocational and technical teachers?

2. How can occupational experiences be provided?

3. How can the occupational experience be exploited for greatest learning value?

4. How can problems related to factors such as time, money and motivation be solved?

During the second half of the discussion period, the participants were urged to consider:

1. areas where further research is needed;

2. experimental, demonstration or pilot programs which need to be developed;

3. possible seminars, workshops, conferences or sessions to follow-up the 1967 Seminar.

The ideas and suggestions from group participants are organized and presented in relation to the questions raised at the beginning.

PURPOSES OF OCCUPATIONAL EXPERIENCES

Occupational experiences should provide the potential or in-service teacher (the learner) with a concept of the world of work in addition to the skills which may be developed. Self-confidence grows as competence is gained. The reality of a job situation makes the employer-employee relationship come to life. An understanding of and appreciation for the actual work environment can be gained. When these skills are developed in a real job setting, the possibility of transfer is greatly enhanced.

The learner, through personal guidance and his own initiative, may explore the opportunities available that are directly related to his present job involvement. He may be helped to see the opportunities which are found in related job areas. For his own professional purposes he may re-assess his choice of teaching in the light of business and industrial opportunities.

Potential teachers and in-service teachers may find occupational experiences invaluable in up-dating and up-grading existing levels of knowledge and skills. Where groups of vocational teachers are found, a rotation system into occupational experiences and back to the classroom may be employed to insure up-dating for all teachers.

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*Helen A. Loftis is professor of home economics education at Winthrop College, Rock Hill, South Carolina.

For some, the occupational experience is designed to help the learner gain an understanding and appreciation of the jobs to be taught, rather than to develop job skill. The primary purpose is exploratory with a view to empathising with pupils.

The occupational experience, like other direct laboratory experiences, is seen as a means of testing theory in application. Occupational experiences serve their basic purposes to the extent that learners gain insight, develop competencies, study, evaluate and reconstruct theory in action.

The defined purposes of vocational programs determine the nature and amount of occupational experiences. The scope and depth of the involvement depend on the objectives seen as desirable by leaders of vocational programs.

PROVISION OF OCCUPATIONAL EXPERIENCES

Seemingly, the easiest way to provide occupational experiences is to select for vocational teachers those who already have the job skills needed. In certain vocational areas, the skilled person is given on-the-job training to become a teacher. In some instances, such persons have continued to study, earning baccalaureate or advanced degrees.

Using vocational teachers and job-skilled persons as members of a teaching team is a solution some have found successful. Pre-service teachers have worked with a particular industry during the summer months. In a few instances, however, the potential teacher has chosen to stay with the industry.

A work-study arrangement planned cooperatively with job source personnel is useful in some situations. Pre-service teachers study for a semester and work for a semester. The study-work sequence would alternate for groups to enable a team of students to be on the job year round.

Development of a state level advisory council for vocational and technical education was suggested for improving teacher education.

ENHANCING LEARNING VALUE OF OCCUPATIONAL EXPERIENCES

Group participants were reminded to look again at what high school pupils need. Innovations in teacher education must be consistent with this ultimate aim.

Occupational experiences for the pre- and in-service teacher must be supervised to insure greatest learning.

If college credit is to be given for a course which includes occupational experiences, the course must be highly structured to insure provision of the experiences desired.

PROBLEMS RELATED TO OCCUPATIONAL EXPERIENCES

When pre-service teachers have an opportunity to work in business and industry, some may decide to leave teaching. The opportunities and salaries may appear more attractive than those found in teaching.

When summer experiences are used as a part of the professional preparation, the question of financial support arises. At the undergraduate level, the student may be counseled and encouraged to take the initiative in seeking occupational experience. However, many problems are related to this solution. Will the student have the necessary contacts to find a position which can be short-term, and yet provide the learning he seeks? Will he be able to support himself financially while working and during the coming school year should he find a low-paying job? Will adequate supervision and guidance be provided when students may find jobs scattered over a wide geographical area? Can the employing agency be expected to help the student gain the greatest benefit from the job experience?

In some vocational areas--home economics, for example--will students and in-service teachers enlarge their perspective of the service jobs to see all levels? Will opportunities from entry-level through higher skill levels to supervision and management areas be made evident?

Institutions vary in nature, major purposes, and perceptions of need. Some institutions find it possible to provide occupational experiences within the framework of the

vocational preparation program. Other institutions must find ways to provide experiences in places other than the school building. Simulated experiences could be provided but there seemed to be a consensus that simulation could not be used completely.

RESEARCH NEEDED

Questions were raised which need research to provide answers. Why do men hold the top jobs in housing, foods, and clothing was a concern expressed by a home economist.

Depth studies are needed in the occupations themselves. The requirements of high-level jobs need analysis as much as do low-level jobs. How can the occupational experience requirements of prospective vocational and technical education teachers be identified? Some effective way is needed to measure and evaluate prior occupational experiences of teachers in relation to needs in the area of teacher education. Better ways of coping with the problem of measuring occupational experiences as a predictor of success in teaching are needed. Although studies relative to the prediction problem have been made, the need for experimentally designed studies with control of variables was identified.

Further research on occupational career patterns needs to build on existing knowledge from the work of Super and others.

Pilot programs which explore inter-service cooperation are needed. For example, could agriculture students work with the distributive education teacher in learning sales techniques?

Since occupational experiences are often difficult to provide, could simulated experiences be used with comparable effectiveness?

Alternatives to direct occupational experiences should be studied. Can prospective teachers gain useful knowledge and skills through observation rather than participation?

Identification of the fundamentals which must be taught regardless of current occupational changes is needed. Programs then could be examined to determine whether or not these basics are being taught.

The values derived from occupational experiences need to be determined. Can these values transfer to other areas? Are there ways of developing these values other than through actual occupational experience?

A pilot program was suggested in which the teaching competency of a master teacher would be combined with the skills competency of a technician.

RECOMMENDATIONS FOR FUTURE SEMINARS

A national seminar where top leaders in industry meet with teacher educators was highly recommended. Similar meetings were suggested for regional and state levels. In addition to formal presentations, informal contacts and interaction would be of great value.

An altered program format was suggested for future seminars. Two days of structured sessions with formal presentations could be followed by three days of group discussions. Opportunities for spontaneous discussions might be provided for greater flexibility.

A cumulative record form for occupational experiences of teachers might be circulated at the seminar to provide a national inventory of resource people.

A further recommendation was to have copies of the papers presented during the program ready and available in the beginning of the meeting.

For future workshop sessions, reports of recently completed research should be scheduled.

A seminar similar to the 1967 meeting should be planned to include state directors and supervisors.

In-service educational programs are needed for leaders in vocational and technical education to study new developments in teacher education.

EDUCATION FOR VOCATIONAL-TECHNICAL POST-HIGH SCHOOL TEACHERS

Special Interest Session Report

TASK FORCE PERSONNEL

Session Leaders: Monday, Harland Samson, professor of distributive education, The University of Wisconsin.

Wednesday, Lewis R. Fibel, specialist in occupational education, The American Association of Junior Colleges.

Thursday, L. C. McDowell, teacher educator in trade and industrial education, The University of Kentucky.

Resource Person: Aaron J. Miller, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: James G. Bennett, The Center for Vocational and Technical Education, The Ohio State University.

PROFESSIONAL EDUCATION FOR POST HIGH SCHOOL VOCATIONAL-TECHNICAL TEACHERS

Harland Samson*

The professional education of vocational teachers is directly a function of those titled "teacher educators" and who are generally associated with an institution of higher education. The other two aspects of teacher preparation, "content education," and "occupational experiences," are usually only partially the responsibility of the vocational-technical teacher educator. Because of their primary concern for professional education it is understandable that the teacher educators discuss this topic with obvious knowledge and commitment.

ASSUMPTIONS REGARDING POST SECONDARY TEACHER EDUCATION

It was assumed, from known enrollment trends, planned expansion, student expressed demand, occupational demand, and from the statements made by speakers at the general sessions, that certain things are presently needed in post secondary education. These assumptions follow:

1. More teachers are needed to teach at the post secondary level. There is a quantitative demand for more personnel to handle students that desire to learn. There is no alternative if the present approaches to providing instruction are continued.

2. There is need for more than one type of post secondary teacher. The nature of the teaching-learning task at this level suggests that several varieties of educational personnel could operate within the vocational-technical post secondary structure. There might be these types:

   a. Master teachers--those who could handle the entire range of educational duties including organization, planning, development, coordination, and administration of a vocational-technical program.

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*Harland Samson is professor of distributive education, The University of Wisconsin.

b. Regular teachers--those who have met expected requirements in all respects and who are competent teachers of content, and capable of directing the necessary learning activities.

c. Specialist teachers--those who are highly trained or experienced in specific aspects of vocational or technical work and who, by virtue of interest or because of the dynamics of their specialty, must concentrate on this rather limited range of content or work. Specialist teachers may be full-time staff personnel or selected business or industry resource people.

c. Auxiliary personnel--those who provide the supportive strength to the instructional staff. They would include audio-visual media specialist, clerks, secretaries, counselors, information storage and retrieval aides, laboratory and shop assistants, and similar staff.

3. There is need for improvement of present vocational teaching staff. The qualitative aspect of present and new staff becomes more serious each semester. The rapidity of change in occupational requirements and expanding technological processes frequently leave teachers ineffective and instructionally absolute. The up-grading and retraining of staff must be continuous and rigorous if the educational effort they make is to have any pay off for the student.

4. The new and emerging technology in teaching needs to be assimilated into the daily teaching of vocational instruction staff. The wide range of materials and media of instruction have enormous import for education if they can be integrated into the working behaviors of present and future teachers.

QUESTIONS ABOUT PROFESSIONAL VOCATIONAL-TECHNICAL TEACHER EDUCATION

Questions were far more prevalent than answers. These questions, along with opinions and reports of isolated practices, consumed most of the discussion time. They are presented here in order of reporting and with brief descriptive comment.

1. What is professional education? There is no issue involved with this question but rather a need for a definition that could be used by all. A rather broad definition similar to that of James B. Conant in THE EDUCATION OF AMERICAN TEACHERS (McGraw Hill, 1963) would seem appropriate, thus--"professional education would be courses taught by professors of education and related directly to the theory and practice of public school vocational teaching." There seems to be two possible sub-divisions of professional education courses. First, those courses that are generally required or of value to all vocational teachers, and second, those that are unique or of value to only one specialized area of vocational or technical education. This double meaning of the term "professional education leads to some confusion in both scholarly and informal discourse.

2. Are the views of the various vocational-technical fields the same on professional education? The reaction of the participants clearly indicate that views are not the same. However, neither are there violent differences or serious areas of conflict. The differences are largely on the kind, amount, and where and when professional education should be provided the post secondary teacher. These points are reflected in the next three questions.

3. Are the basics of planning and teaching the same for all vocational fields? There are undoubtedly some areas of pedagogy common to all--thus the use of the term "professional education" by some educators to mean courses for all vocational and technical teachers. There are teacher educators in some vocational areas who have the feeling that what is good for the teachers in their field is therefore automatically good for vocational teachers in all other fields. The more realistic view seems to be that there are sufficient uniqueness in each vocational area that specific teaching to those features needs to be done. Professional education, particularly the methods courses, will vary primarily by the nature of the content. Some vocational areas have a predominance of skill or psycho-motor development, others will have their predominance in the cognitive or affective areas. The participants could not agree on whether the post secondary teacher needed professional education uniquely designed for that level or whether the preparation given for vocational teachers at the high school level would be appropriate for post secondary too. It seems that if the nature of the field is skill and psycho-motor instruction the planning and teaching will be similar regardless of level. However, if the content is largely cognitive or affective there may be need for professional courses on planning and teaching such content on the post secondary level.

4. How much professional education must be attained before beginning teaching? Certainly not all of the professional education needs be given before the teacher begins full-time teaching. In fact several aspects of professional education might best be

given, and better learned, after the student has had an extended teaching experience. The professional education course work pertaining to the actual teaching-learning process was felt to be of primary importance in the pre-service phase. The content dealing with curriculum development, long-range evaluation, and similar aspects of the learning environment could be given in-depth coverage after the teacher had entered service. The idea that there is a fixed body of professional education proved bothersome to many. The trend of thought was that professional education for post secondary teachers was a continuing type of learning effort that would be carried out through regular in-service sessions and independent study.

5. Where should professional education be given the post secondary teacher? Some of the possibilities on this question are covered in the preceding item. The discussion on this question divided the "where" into three possible places. The first would be the pre-service program of the teacher education institution. The second, not generally used but becoming more common at the post secondary level, is during the teaching internship. Much of the professional education content can be best inserted and effectively learned concurrently with the intern teachers assignment with a school and while under the direction of a team of master teachers. The very nature of the intern idea is that the hours of pre-service, on-campus instruction can be reduced and reassigned to the internship experience (internships generally full time for one semester with a few reported full time for the full academic year). The third place where professional education might be provided would be in the post secondary school via in-service with assistance of the teacher education institution through evening or extension courses. The major point made was that if portions of professional education are going to be delayed then there is an accompanying obligation on the part of the teacher education institution and the state board for vocational education to assure that follow-up courses are given conveniently and regularly.

6. Is there an accepted philosophy of post secondary education? The answer to this question was a disappointing "no." Only in a few of the states where post secondary vocational-technical education has been well established does there seem to be any evidence that a philosophy has developed. The education courses taken by all students entering teaching are embarrassingly void of any philosophical treatment of post secondary education as it is presently found in the American educational structure. A related question is "What is the purpose of post secondary education?" The question has a philosophical base and seems to deserve a researched answer.

7. Are potential post secondary teachers exposed to the psychology of the age group they are to teach? Most teacher education programs have as part of the sequence one or more courses in educational psychology. Few participants reported any psychology course appropriate for post secondary included in that sequence. Some had "informally" arranged coverage but most of what is done is through a course directly under the control of the teacher educator. The psychology courses required deal most often with child and adolescent psychology with little treatment of abilities and learning of the young adult or even the mature adult. There seems to be a definite need to reorganize psychology courses for the potential post secondary teacher.

8. What should be the certification requirements for post secondary teachers? The views on certification for post secondary teachers are clearly split. Some saying there should be none of any kind, and others saying that certification is necessary to maintain standards. The issue remains, but is resolved in part by the general belief that teacher education for the post secondary teacher needs to be conducted at the highest level possible to assure that students will have capable teachers.

9. What competencies are needed by teachers at the post secondary level? These competencies, of course, are in content and occupational as well as in the professional area. The question is about both breadth and depth of professional ability with the new strategies and developments in education.

RESEARCH IN PROFESSIONAL EDUCATION

Suggested areas of research in post secondary vocational-technical teacher education were fairly numerous. It was noted that research in vocational teacher education was limited but that there was much relevant knowledge in the research conducted under other auspices and titles. It was felt that it might be fruitful to examine existing research in some detail for answers to questions but information would be needed in many areas regardless of present knowledge. The following are some of the areas suggested.

1. Characteristics of post secondary teachers. The development of personal, professional, occupational, and attitudinal profiles of teachers dichotomized by success, age, experience, and other ways would provide help to teacher educators.

2. The development of evaluative procedures and instruments for measuring effectiveness of teacher preparation programs. The quality of programs is a major concern to many. The fact that personnel now prepared are gaining employment may not be evidence of satisfactory preparation. The demand is such that almost any type of preparation leads to employment by some school.

3. Inquiry into the role post secondary schools should play in teacher education. The development of teachers probably should become a shared responsibility and the nature and scope of professional education to be assumed by employing institutions needs to be explored. The concern was with what is being done, what practices are effective, and what needs to be done in the future.

4. Inquiry needs to be undertaken that will bring about an understanding of the role of post secondary education institutions and their place in the structure of higher education. Numerous efforts might be necessary in this area to produce a pool of information from which a philosophy of post secondary vocational-technical education might evolve.

5. Extensive inquiry into the recruitment practices and procedures of various teacher education programs is needed. Certain institutions seem to have consistently better success in recruiting for new post secondary teachers than others. Is this success the result of practices, procedures or other transferable factors or is it environmental and peculiar to an institutions size, structure or location?

EXPERIMENTAL, DEMONSTRATION, OR PILOT PROGRAMS

Developmental programs, as they relate to professional teacher education, did not excite the participants. The feeling expressed was that a good teacher education program would have some aspect of its work in experimental or pilot form on almost a continuous basis. The feeling was that the teacher education program should embody those elements of sound instructional procedure that the potential teacher should be prepared to carry out. Thus, the program should use as much of the newer educational technology as feasible. The training with these technological applications will encourage there use when the teacher enters teaching on his own.

It was suggested that each teacher education institution have continuous access to a post secondary institution or institutions which have progressive and successful educational practices.

It was also recommended that experimentation be made in new sequences and new courses for professional education.

SEMINARS, WORKSHOPS, CONFERENCES, AND TRAINING SESSIONS

Two kinds of programs were suggested. Numerous programs were suggested for post secondary teachers and a few programs were suggested for teacher educators. Those in the first category follow:

1. A wide variety of programs in the form of institutes, workshops and conferences to up date post secondary teachers in new educational technology.

2. Special training sessions for "spot" teachers who need selected aspects of professional education. Because there may be only one or a few in any given state, these programs might best be given on a regional or national basis.

3. Demonstration centers for presentation of research, facilities, practices, or other aspects of post secondary education generated through experimentation.

Those in the second category follow:

1. Seminars on teacher competencies. This should have implications for the identification and means of developing competencies.

2. Programs (workshop-training) on techniques of teacher evaluation.

3. Demonstration and training sessions on new educational technology. Such sessions should carry substantial time for actual "try out" of hardware and materials.

4. Conferences on post secondary level learning processes and career development patterns.

On the teacher education programs particularly the program should be in a location and facility that has the capacity to provide extensive demonstration of what is to be presented in the program. The agency involved does not appear to be a critical factor. Timing is important to teacher educators and such programs probably should not be in the summer period or at times when there are institutional commitments.

MAJOR FIELD CONTENT EDUCATION FOR POST-HIGH SCHOOL TEACHERS

Lewis R. Fibel*

The discussion group expressed the opinion that for most post-high school vocational-teachers, their teaching responsibility would extend over a considerable range of subject material. Hence the technical content of their training should encompass a broad range. They considered the possibility that technical competence should be sufficient to cover a cluster of occupations. The group suggested that there would be several sources for students in vocational training programs and that consequently their technical knowledge and skills might also be obtained in several ways.

One of the sources of teachers might be graduates of technical programs of junior colleges and other post-secondary institutions. However, in this case, the majority felt that some further technical knowledge would be highly desirable. A second source of teachers would be graduates of professional programs in engineering, nursing, business administration, etc. There were few that thought that the Department of Vocational Education in schools or colleges of education would have much responsibility for providing technical content. The newly developing baccalaureate programs in technology were another possible source for teachers.

All sources for technical teachers should utilize the services of industry, e.g., via advisory committees, to ensure the currency and appropriateness of the technical content of teacher training programs.

The teaching staffs in these institutions, in turn, require exposure to new industrial methods and technology in order to make their activities more meaningful.

The group expressed the need for the development of tests to measure technical knowledge and competency. However, it was realized that a great variety of tests would be required to meet all needs.

The group felt that it was not sufficiently aware of the present backgrounds of post-high vocational-technical teachers, of the details of various training programs for them, and of the legal or quasi-legal restrictions that would have import for this training. They suggested that these all be subjects for study.

GROUP RECOMMENDED ACTIVITIES

1. Leadership development programs for and within post-secondary institutions.

2. Opportunities for those who hire vocational teachers (e.g. presidents and deans of community and junior colleges) to express their opinions on appropriate qualifications and training.

3. Opportunities for vocational teachers, themselves, to express their views.

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*Lewis R. Fibel is a specialist in occupational education, The American Association of Junior Colleges.

NEW APPROACHES IN PROVIDING AND UPDATING OCCUPATIONAL EXPERIENCES FOR VOCATIONAL TEACHERS

L. C. McDowell*

The topic under discussion contained two definite areas of thought: 1) providing for occupational experience as a part of teacher education prior to the individual's actual teaching, 2) updating the occupational experience of vocational teachers who are already teaching. To attack this dual problem the group discussed each topic separately. The total group was divided into two subgroups so that greater participation from all conferees might be achieved in the discussions.

There seemed to be general agreement in the two subgroups that currently there is a limited number of pre-service teacher education programs that contain directed occupational experience as part of their curricula. In the great majority of instances occupational competence is expected of all persons prior to enrollment in these types of programs. While it was expected that occupational proficiency was a requisite for effective teaching by the new teacher, there was no agreement as to the amount of time, or extent, of occupational experience which the new teacher should have had.

It was recognized that the ways which the various vocational services provided for occupational experience were different and unique to the particular service. There seemed to be a consensus that the depth of this type of experience would be greater for the post high school student than that required for the high school enrollee. However, this fact didn't appear to be substantiated through certification regulations in the various states as there appeared to be an absence of such regulations for the teacher in the community college or technical institute. Generally, teachers in area vocational-technical schools are certificated.

Those teacher training institutions that provide occupational experiences for the new teacher do so on a cooperative basis. The length of time for this cooperative experience differs from institution to institution. The least amount of time mentioned was 2000 hours while the longest time was three years. There seemed to be a difference of opinion as to the purpose of this on-the-job experience. Some believed its purpose to be solely for gaining occupational proficiency while others would put greater emphasis on the more intangible values of the experience, i.e. understanding the profit motive, the appreciation of the problems of meeting a deadline, or the vicarious experience in dealing with unions.

Certain values were thought to be derived from cooperative occupational experience. Some of these were: 1) the ability to relate materials and work activities to principles and theories learned in school; 2) the establishment of confidence and confirmation of one's ability and technical information; 3) the possible change of one's attitude toward work; 4) co-op students may inject into the business firm theories from academic institutions; and 5) the initiation of good public relations between vocational educations and industry.

The discussion group thought research was needed that would confirm or repudiate the idea that extensive actual "lunch box" experience is superior to a more abbreviated supervised cooperative experience in providing for occupational competence for vocational education teachers.

Study was also needed to determine what technical competencies were needed by teachers of the various vocational services. Associated with this need was that of the apparent necessity to develop occupational proficiency examinations (information and performance) for each occupation that is to be taught.

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*L. C. McDowell is a teacher educator in trade and industrial education at The University of Kentucky.

There seems to be no "best way" to keep current vocational teachers up to date in their occupational skills and knowledge. Teachers in some states (and institutions) are required to return for actual work experience at regular intervals while others are only encouraged to do so. Still others, because of problems caused by their teaching schedules, do not have time available for this upgrading. On some occasions provisions are made for companies to bring institutes to the teachers. This is particularly true of electronic and automative manufacturers.

In addition to catching up on new ways of doing things one of the chief values derived by the teacher who periodically returns to industry is his renewed understanding of needs and problems of industry.

EDUCATION FOR VOCATIONAL-TECHNICAL ADULT TEACHERS

Special Interest Session Report

TASK FORCE PERSONNEL

Session Leaders: Monday, John G. Lipps, lecturer in vocational teacher education, The University of Pittsburg.

Wednesday, John N. Rodgers, head of agricultural education, Virginia Polytechnic Institute, Blacksburg.

Thursday, Irene Beavers, associate professor of home economics, Iowa State University.

Resource Person: Calvin J. Cotrell, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: Raymond Reisenger, The Center for Vocational and Technical Education, The Ohio State University.

ADULT EDUCATION

John C. Lipps*

A major element inherent in the problem of identifying new approaches of providing professional education for vocational teachers of adults is that of describing the future role of the teacher in terms of teacher competencies. These teacher competencies are then used to set the goals of our teacher education programs. The goals, or competencies, to be developed in our programs are those which are necessary to bridge the gap between that set of competencies required by highly qualified teachers and those competencies typically possessed by teachers prior to entering our teacher education programs. The recruitment of student teachers then must be focused upon those persons already possessing the necessary competencies that will not be developed in our teacher education programs.

Our special interest group sought to identify those teacher competencies that are somewhat unique to adult education keeping in mind that the teacher of the future may face problems that are quite different. Results of our discussion included the following three competencies that are among the many needed by teachers of adults.

1. Understanding of the adult learner and his motivation.

2. Ability to adjust, adapt, and organize instructional method and course content to meet the needs of the group and the individual student.

3. Ability to evaluate students on an informal basis in order to facilitate learning.

A little time was devoted to the determination of competencies that are typically possessed by teachers prior to entrance in our teacher education programs. It was suggested that a primary competency was the ability to relate to other adults. The vagueness of this statement and the difficulty of coming up with a list of "prior existing competencies" led the group to suggest a need for additional research in this area.

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*John G. Lipps is a lecturer in vocational teacher education at The University of Pittsburg.

In reference to recruitment programs aimed at persons possessing the necessary competencies that are not to be developed in our teacher education programs the following suggestions were made:

1. Recruitment programs must identify incentives that would appeal to potential full-time adult teachers and another set of incentives for the part-time adult teachers.

2. Incentives for full-time teachers might include a full scholarship or an internship program.

The group also observed that there is little or no research available regarding adult teaching. This research is needed as a basis for identifying the possible incentives for recruitment practices.

When attempting to renovate existing teacher education programs the following chain of events must be kep in mind. The future training needs of our society will determine the skills, knowledge, and attitudes needed by our adult citizens. The future training needs of our adult citizens will determine the teaching tasks of our vocational teachers. These teaching tasks in turn determine the kinds of teacher competencies necessary for effective teaching. When the teaching competencies have been determined, then we may think about the possible new approaches or innovations which are necessary for the development of needed teacher competencies.

ADULT EDUCATION GROUP

John N. Rodgers*

Dr. Rodgers directed the discussion toward a definition of the term "field content." Depending upon the background of the participant, the term meant different things to different people. Field content referred to college curriculum courses, other than general and professional, for those participants representing agricultural, business, distributive and home economics education. Whereas, those representing trade and industrial education made reference to the work experience background of the prospective teacher.

Several questions were raised as considerations relative to determining the field content needed by teachers of adults. These questions were:

1. What is the nature of the course to be offered?
2. What is the background or education of the teacher?
3. Who are the students?
4. What are the objectives of the course?

The answers to the above questions might greatly influence the "field content" needed by the teacher. Therefore, it was impossible to arrive at specific field content for all teachers. Rather, it appears that an individual appraisal of pertinent factors--experiential background, course to be offered, etc.--will serve to determine field content requirements in some areas of vocational education during the next few years.

In areas of vocational education generally requiring the baccalaureate degree for certification, the field content of the teacher education curriculum is fairly well defined and there is a great deal of commonality in programs of the various states.

The idea was advanced that in other professional areas there are aides, helpers, specialists, technicians, etc., while in education everyone is called a teacher. Perhaps the professional standing of teachers would be enhanced with more stringent requirements for certification while those specialists, aides, etc., are allowed to contribute to the educational experiences of learners, but under the supervision of a professional teacher. It is less than realistic to consider anyone a professional teacher who has not had formal education dealing with motivation, teaching-learning concepts, formulating educational objectives, the outcomes of learning, and evaluation of the educational process. These topics are normally included in the professional courses of the teacher education curriculum.

It was suggested that other service areas could profit from what has been done so effectively in trade and industrial in-service teacher education. A resource book by John Johnstone, "Volunteers for Learning," was suggested to the group.

Seminars, credit and noncredit courses and excellent supervision are seen as essential for instructors in adult education because many of them are not knowledgeable enough about the program to understand the scope of "field content" required for effective teaching.

Questions concerning experiential and/or educational background evoked the general answer that it must be adequate to do the job. Adequacy would depnd upon the subject, area, or skill to be taught, the vocational service involved, and the standards imposed by supervision from whatever source.

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*John N. Rodgers is head of agricultural education at Virginia Polytechnic Institute, Blacksburg.

One suggestion for up-dating teachers dealt with the development of shop centers. The suggestion supports selecting a shop and adding all necessary equipment for training or up-grading of staff members.

Several members of the group suggested the need for additional research in the respective vocational services to determine the field content deemed essential in the teacher education program for that service. Also, developmental programs of in-service education were looked upon as desirable in arriving at more effective work-shops, courses, etc. for teachers in the field.

National seminars similar to this one were seen as important to program development in vocational and technical education. Additional seminars of this general type were suggested for the coming years.

As a result of the discussion, comments, and deliberations of the seminar session, the following were seen as implications:

1. Field content in vocational and technical education varies greatly as teachers are recruited for teaching assignments in the respective vocational services. Some teaching assignments involve sophisticated concepts while others are limited largely to a skill or some related skills. Therefore, determining "field content" necessary for successful teaching is as complex as the assignments are varied. Because of the shortage of teachers in all vocational services, many educators are hesitant to suggest up-grading the requirements for teachers. Hence, many teachers either lack adequate field content to teach effectively or they cannot relate what they teach to other outcomes of learning in the area to develop understanding on the part of the student. This is unfortunate, indeed, since most of us already know a great deal more than we understand well enough to use. Therefore, the need for in-service education programs, credit and noncredit, is greater than ever. The need for such programs will grow with the expansion of knowledge.

2. Another consideration of importance in compensating for a lack of "field content" on the part of the professional teacher is the use of resource people with a specific knowledge or skill which the teacher can use at the appropriate time in providing a vigorous learning experience for his students. Such resource people can often be borrowed or used through the courtesy of educational institutions, industries, governmental agencies, etc. Many times they are specialists in a specific field. This practice has been tried successfully by some vocational and technical teachers. There is a caution, however, that the class should not be turned over to the resource person.

Other means of compensating for a lack of field content include the use of selected films, filmstrips, recordings, etc. These have been used advantageously in a few states.

INNOVATIVE APPROACHES IN PROVIDING OCCUPATIONAL EXPERIENCES FOR VOCATIONAL AND TECHNICAL TEACHERS

Irene Beavers*

The possible dimensions of the topic were outlined by the chairman. The dimensions involve pre-service and in-service training. Types of experiences which could be discussed were:

1. Practical experiences
2. Simulated experiences
3. Exploratory experiences

The principal speaker was interpreted as questioning whether a teacher needed the skill in order to teach the skill. Simulated experiences have lead to space projects and this should point out that distributive education and other vocational education could use this type of experience for work-experience programs. Examples of what could be done in distributive education included role playing of grievances and of giving orders.

As an integrated experience under strict control, a student teacher could receive occupational experiences. The student may receive credit for courses if the college controls the experiences in a work situation. Reports by students are made and the firms are contacted.

The group stated a few desired outcomes in behavioral terms for pre-service and in-service education programs for adults:

1. Instructors of adults must be accepted by the adults as an adult.
2. Must be able to work with supervisors.
3. Must have acceptable standards of workmanship.
4. Must be able to update his work, know supplies, specialized equipment.
5. Must be able to re-enter.

Teacher education institutions will need to be open minded about how to obtain occupational experiences. Today's mode should not limit our identifying staff needs, budget problems, our thinking or dreaming.

The use of films, video tape, and slides can be used to add information to the program of adult teacher occupational education.

There should be report back or feedback from students visiting industry. Adult teachers should be encouraged to visit and coordinate their student's activities to really learn what they teach.

Occupational descriptions do not give any feeling, or appeal, or understanding of the excitement in an open-ended business or industry. A teacher must have added understandings and feelings about the trade or occupations to guide students properly.

The students must have adaptive skills and this goes into all courses for adult teachers as well. Competencies can be developed in the training plan. A plea was

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*Irene Beavers is associate professor of home economics at Iowa State University.

made to research the theory needed to be added to occupational experiences to develop competencies. Analyses of tasks can lead to development of competencies.

A request was made to explore creative methods to provide experiences of an occupational nature. A plea was also made for a seminar to develop behavioral objectives and analysis methods. It was suggested a small group of experts throughout the nation plan long-term research through the center.

The question was asked as to why adult education did not attract more participation from those attending the seminar. It was the feeling of the group that adult education is considered after other education.

There is a need to take a new look at adult education and training. The prospects for expanding or meeting the needs of adults will not be met unless attention is given to this area, perhaps through a seminar on adult education. It is important now for funds to be used to provide professional teacher education for adult educators. A poll of participants showed that fees often are waived, salaries paid, credit given and programs designed to be attractive to trade and technical adult educators. The armed services seem to be interested in providing second careers for retiring servicemen.

EDUCATION FOR VOCATIONAL-TECHNICAL TEACHERS OF
PERSONS WITH SPECIAL NEEDS

Special Interest Session Report

TASK FORCE PERSONNEL

Session Leaders:	Monday,	Sylvia G. McCollum, program planning officer, Division of Adult and Vocational Research, Bureau of Research, the U. S. Office of Education.
	Wednesday,	Estelle L. Popham, chairman of the Department of Business Education, Hunter College, New York.
	Thursday,	Francis A. Gregory, associate director for Manpower Support Programs, Office of Manpower Policy, Evaluation and Research, the U. S. Department of Labor.
Resource Person:		Harry Huffman, The Center for Vocational and Technical Education, The Ohio State University.
Recorder:		Marla Peterson, The Center for Vocational and Technical Education, The Ohio State University.

THE PROFESSIONAL EDUCATION OF THE TEACHER OF PERSONS WITH SPECIAL NEEDS[1]

Marla Peterson*

The attitude of the teacher is one of the crucial factors in teaching the disadvantaged. How many teachers of persons with special needs have "broken bread with," or number Negroes among their close friends? The attitude of the teacher toward what he teachers also becomes important in teaching youths with special needs. Often vocational teachers have been guilty of being teachers of skills rather than teachers of students.

Are we doing disadvantaged students a dis-service by forcing them into our middle class mold, turning them loose in the labor market and then finding them rejected because of their color? It was stressed that minority students should be encouraged to enter any occupation in which they could find success, although currently they are rejected from these jobs.

In working with persons with special needs teachers must become even more student centered, teaching basic skills in innovative and meaningful ways. These teachers must also take the lead in demonstrating to other teachers the need for basic skill competency for these students. Teachers must be taught methods through which they can involve disadvantaged students in classroom activities.

In many universities, teacher educators must be made aware of their responsibility to train teachers for urban as well as rural schools. Teacher educators must be made to realize that urban schools are deteriorating to a shocking degree. Teacher educators should encourage graduate student and institution research on programs for the disadvantaged.

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*Marla Peterson, The Center for Vocational and Technical Education, The Ohio State University. Recorder for the session led by Sylvia G. McCollum, Program Planning Office, Division of Adult and Vocational Research, Bureau of Research, the U. S. Office of Education.

[1] A summary of remarks and discussion of participants.

Four areas of future research needs were identified:

1. The role of the high school in the future in serving the needs of the disadvantaged youth.

2. Analysis of the approaches and techniques successful teachers are using in the ghetto schools.

3 A description of the type of teacher education programs which will best prepare teachers for ghetto schools.

4. Statistics on up-to-date job entry and job earning power of Negroes and other non-whites.

Teacher education programs for teachers of disadvantaged youth should be developed through various pilot programs. One such type of pilot program would be to bring back teachers trained through traditional methods to summer sessions for developmental experiences. Another would be to have teachers in training spend their senior year in urban ghetto schools or to select teachers from the ghetto for teaching in their own community.

RECENT DEVELOPMENTS IN PROVIDING MAJOR FIELD CONTENT FOR TEACHERS OF PERSONS WITH SPECIAL NEEDS

Estelle L. Popham*

As an example of ongoing research supported in part by The Center, the chairman described a several-pronged project in business education, Identification and Modification of the Perceptions of the Disadvantaged[1] toward Office Work. Phase 1, preparation of an instrument for measuring the perceptions; Phase 2, a workshop for 28 business teachers from 18 states at Hunter College of the City University of New York during which sensitivity training was given and teams of teachers worked with disadvantaged high school students, trying out innovative materials developed by workshop participants; Phase 3, a follow-up year during which teachers who attended the workshop and matched groups of other teachers will try out materials; and Phase 4, additional workshops in which materials will be modified and additional materials developed. During the workshop it became apparent that teachers of students with special needs from all sections of the country share problems: a transient school population, inadequacy of oral and written communication, lack of parental interest in the school, health and nutrition deficiencies, the business education department serving as a dumping ground for the under-achiever, low levels of aspiration, and poor reading and computational skills. Two approaches are necessary: 1) The teacher must understand the background of the student. 2) To the extent that is necessary the teacher must interpret to the student the values held in the business world that do not coincide with the values of his culture. The need, then, for changing major field content is critical. The teacher who develops only the skills necessary for performance on the job without involving students in finding out how these skills are used in the complete office situation, what goes on in an office, and how jobs are interrelated has done only part of his job. Helping students with special needs to improve their self-image must also be given top priority, for then only is there "learning readiness."

The importance of the behavioral sciences to the vocational program was discussed, and the group felt that their inclusion on the program of this conference was most beneficial to participants. For instance, Professor Vera Mae Fredrickson's question, "How alike do people have to be to live and work together?" is worth the teacher educator's consideration as an area for investigation by prospective teachers in a world where values are shifting.

The unique opportunity and responsibility of vocational teachers to contribute to solving current social problems by preparing youth with special needs to enter and progress in the industrial and business world was stressed. The close relationship with pupils that the vocational teacher enjoys makes it doubly important that the major content of his preparation for teaching chart the direction he can take in interpreting the world of work to his students, especially in today's environment where alienation from work is an accepted sociological concept. Can the "middle-class value" of the dignity of work be transmitted to our students, or is it outmoded?

The comment was made that little attention had been given during the conference to problems of education in the inner city beyond its inclusion in the keynote address, and that teacher educators from urban areas were conspicuous by their absence.

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*Estelle L. Popham is chairman of the Department of Business Education, Hunter College, New York.

[1]For purposes of this project disadvantaged refers to economically and culturally deprived students.

INNOVATING APPROACHES IN PROVIDING OCCUPATIONAL EXPERIENCES FOR VOCATIONAL AND TECHNICAL TEACHERS OF SPECIAL NEEDS

Francis A. Gregory*

In the nature of an apologia it should be stated at the outset that it proved to be very difficult to focus the discussion of this group on even the familiar and usual means, let alone innovative approaches for providing periodic occupational experience for teachers of vocational and technical subjects. Quick assent to the need for current competence on the part of the teacher in the sociological, psychological and technical aspects of an occupation was forthcoming, as was agreement that the only environment that could assure such continuing development is "on the job." But any excursion into the field of teacher retraining and reorientation in an industrial setting would soon find its way back to the arena of the school shop, classroom, and community and to the problems being faced by public education in attempting to meet the vocational needs of all the people, and especially of all the children.

The teacher-trainers who made up the group revealed themselves to be earnestly concerned with, and not a little baffled by the behavior of ghetto youth; and from their campus perches, two layers or so up from the action, were absorbed with gaining understanding of his nature, his motivations or lack thereof, his values, and his promise.

With some misgivings over the general and specialized abilities of disadvantaged youth showing, a brief account was given of the classic Norfolk Project[1] in which, among 100 undereducated, unmotivated, unemployed Negro males, an approximately normal range of abilities and aptitudes was discovered, resulting in their being successfully trained for employment in a variety of skilled occupations, including that of electronics.

In an effort to shift attention back to teacher preparation, the question was raised as to whether the vocational teacher of persons with special needs must possess unique characteristics or must have had special experiences or preparation. Brief discussion on the question yielded the consensus that:

1. He must be fully competent in his field.

    a. There is apt to be a low tolerance index on the part of the oppressed for imposters.
    b. Those whose experiences have generated little faith may well suspect all of being phoney until proven genuine.

2. He should be a skilled practitioner in teaching techniques calculated to meet the psychological problems that hinder the learning of the disadvantaged.

    a. He should be sensitivity-trained and be able to recognize and make use of "critical incidents."

3. He should be able to relate to his students on the basis of understanding, respect, and concern.

    a. This does not imply a maudlin or excessively indulgent attitude.

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*Francis A. Gregory is an associate director for Manpower Support Programs, Office of Manpower Policy, Evaluation and Research, The U. S. Department of Labor.

[1]Lyman B. Brooks, "The Norfolk State College Experiment in Training the Hard-Core Unemployed," Basic Education for the Disadvantaged Adult, Frank W. Lanning and Wesley A. Many, Editors (Boston, Houghton Mifflin Company, 1966), pp. 378-387.

In the discussion it was agreed that the total equipment of the teacher of vocational or technical subjects must extend beyond the skills and knowledge of the occupation and encompass essential pragmatic knowledge of the behavioral sciences, and that all of these needed constant refreshing.

The illustration was offered of Patricia Sexton's[2] finding in studying some of the 100 or more experimental and demonstration projects for disadvantaged youth under MDTA, to the effect that optimum learning and personal development took place when a "life skills teacher" could be provided. This was a person who not only taught a vocational skill but served also as "counselor, job advisor and teacher of basic education." Such a teacher "...excelled in 'human relations' and (was) warm, friendly and informal with students, while at the same time expecting high levels of performance from them and setting reasonable limits on their behavior. In all projects it was reported that the essential need of trainees was for a close personal relationship with the teacher or other staff person."

Dunwoody Institute's exemplary system of four weeks' paid experience (with additional pay from the employer also allowed) in industry every three years was noted. This system also provides for four weeks in school or college every three years with tuition, travel and living expenses plus $50 per week. This periodic formal education allows developement in such disciplines as the behavioral sciences.

In examining the basic assumption that the prime source of teachers of vocational subjects is in the ranks of the able hands in industry, support for this traditional policy was expressed. Someone in the group quoted the old adage:

"You can't no more teach what you don't know than you can come back from where you ain't been."

Some allowance in industrial experience was granted for teachers of technical occupations in which knowledge such as that growing out of laboratory experience may loom in comparison with specific skills.

Also, brief reference to the liberalized provisions for teacher training under the Vocational Education Act of 1963, to wit:[3]

> The State Plan shall provide for teacher-training programs (both pre-employment and in-service) to the extent necessary to provide qualified vocational education personnel.... 2) Vocational teacher training supported with funds under Smith-Hughes, George-Barden and supplementary Acts will be given only to persons who have had adequate vocational experience or contact in the line of work for which they are preparing themselves as teachers or other vocational education personnel, or who are acquiring such experience or contact as a part of their training.

served as a point of departure for entertaining the possibility of producing effective vocational teachers using persons who lack extended trade experience, through the forming process of various designs of cooperative programs. The prudence of this was less deniable when the group reminded itself that the best institutional vocational or technical programs yield at most an advanced apprentice to be made complete in the finishing school of industry. "Nevertheless," it was observed, "the master teacher of a vocation must himself have been a master craftsman."

The group took another look at what kind of preparatory and refresher education and training experiences might be counted on to develop and sustain the kind of vocational teacher Ralph Weinrich[4] of Michigan characterizes as "imparter of skill and knowledge, creator of the learning environment, counselor, curriculum changer, and placement officer." Little worry was voiced by the group on how to maintain a supply of competent dispensers of skill and knowledge but there was much uncertainty over how the proper skills in influencing human behavior could be assured. It was not felt that campus programs or summer work experience could generate the desired understandings and competencies. Rather it was felt that practicums with agencies or

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[2]Operation Retrieval--The Basic Education Component of Experimental and Demonstration Projects for Disadvantaged Youth, Patricia C. Sexton, U. S. Department of Labor, Manpower Administration.

[3]Administration of Vocational Education, U. S. Department of Health, Education and Welfare, 1966 (Vocational Education Bulletin No. 1).

[4]Earl Bowler's presentation, Monday, September 25 at this Seminar for Vocational-Technical Teacher Education.

organizations operating in the communities where the poor and the disadvantaged live, would be the best means for providing the insights and feelings that would make it possible for the middle class teacher to identify with his ignored, forgotten and deprived fellow-Americans.

The odyssey of the discussion is obvious from this brief chronicle. The expanded mission of the teacher of vocational or technical subjects was recognized and accepted, but engrossment with the nature and extent of the human problems involved obfuscated the sophisticated pedagogical question posed for discussion. Support was expressed for the innovations in teacher preparation and for motherhood too.

A not-so-hidden finding may be that more than anyone else at this time the teacher-trainers would profit from a practicum designed to involve them in the psychology, sociology, anthropology and economics of the ghetto and this means knowing the people who live there. The Panel on Counseling and Selection of the National Manpower Advisory Committee arranged just such a confrontation (although too brief) with reality at a meeting in New York in February 1966 in which young people from Mobilization for Youth, Inc., and the Youth Opportunity Center were invited to participate. They did and the Panel adjourned both enlightened and stunned. Similar moments of truth have been arranged for various offices of the Department of Health, Education and Welfare.

The serendipitous fruit of this session may be the recommendation that deliberate and comprehensive plans be laid to lure the teacher-trainers to the places where their students' students dwell.

VOCATIONAL-TECHNICAL LEADERSHIP EDUCATION

Special Interest Session Report

TASK FORCE PERSONNEL

Session Leaders: Monday, Darrell L. Ward, coordinator, Vocational Teacher Education, Oregon State System of Higher Education.

Wednesday, George L. Brandon, head, Department of Vocational Education, Pennsylvania State University.

Thursday, John A. Beaumont, director, Illinois State Board for Vocational Education.

Resource Person: Sylvia Lee, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: Patricia Smith, The Center for Vocational and Technical Education, The Ohio State University.

LEADERSHIP EDUCATION

Darrell L. Ward*

STRUCTURE:

Monday - General discussion by the total group, aimed at delineation of the problems in leadership education development and the role of the teacher educator in initiating programs to deal with the problems defined.

Wednesday - Division of the total group into small study groups to peruse the specific problems delineated on Monday.

Thursday - Report of the small groups to the total group, with appropriate discussion and recommendations developed by the total group.

Vocational education is currently experiencing its greatest need for appropriate and capable leadership in all developmental and operational aspects of its program. The need for effective leadership has been magnified since passage of the Vocational Education Act of 1963 and the resulting increase in numbers of programs and diversity of services required. It is imperative that teacher educators take an active role in both the provision of leadership through their personal activities and in the development of leadership personnel through in-service and pre-service programs specifically designed to prepare individuals for vocational education leadership in high schools, post-secondary institutions, state divisions of vocational education, and universities offering vocational teacher preparation. To properly assume their responsibilities, vocational teacher educators must consider their role in the following activities.

DEFINITION AND CLARIFICATION OF LEADERSHIP'S FUNCTIONAL ROLE AT ALL LEVELS

The clarification of the leadership role at all levels is a necessary step in each state's development of effective leadership programs. This clarification must include an understanding of the leadership process and the manner in which its development might be assisted through organized and informal programs of leadership education. The functional role of the teacher educator consists of all those activities considered a part of the total preparation of teachers. This will include the general development

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*Darrell L. Ward is a coordinator in Vocational Teacher Education at Oregon State System of Higher Education.

of leadership within all individuals and the specific development of leadership skill for those who can be identified as potential leaders in vocational education.

Essential tasks in the development of leadership abilities which should be considered by the teacher educator are:

1. The identification among the prospective teacher trainees of leadership ability and the stimulation of prospective and present teachers to develop their leadership potential.

2. The identification of specific situational areas in which the potential leader has ability to exhibit leadership, such as research, administration, college teaching, curriculum, etc.

3. Provision for the recognition by the individual of his leadership potential.

4. Provision of stituations which will help the individuals to develop their potential for leadership.

Some examples of functional leadership activities will include:

1. The identification of leadership activities.

2. The setting of task priorities in teacher education.

3. Providing a model of leadership.

4. Determining realistic objectives.

5. Dissemination of information.

6. Articulating activities and programs in vocational education leadership with other significant leadership programs.

7. Evaluating and appriasing on-going activities.

8. Involving appropriate people at all levels in the activities of leadership development.

The teacher educator's role in defining and clarifying leadership must be to continually identify leadership elements throughout the pre-service and in-service teacher education programs in which he is involved. As he identifies those activities which will promote leadership development, he must seek to utilize these situations throughout his instructional program.

THE DEVELOPMENT OF NEW PROGRAMS FOR LEADERSHIP EDUCATION AND THEIR IMPLEMENTATION

Need currently exists for both in-service and pre-service programs of leadership education. These programs must be developed on both a "spot" (to serve immediate needs), and a long-range continuing basis. The teacher educator must take the initial responsibility for design and development of acceptable leadership education programs.

Steps which teacher educators should take in implementing new programs will include: 1) Developing wide spread communication regarding the extent of current projects in leadership development; 2) identification of the needs for establishing programs; 3) identification of common elements which can be applicable in all leadership education; 4) study of new directions in vocational-technical education and 5) experimental projects to guide program development.

The following considerations should be studied in the development of new programs for leadership education:

1. There is a lack of communication regarding the extent of leadership development projects currently being conducted. Broader information relative to these programs should be made available.

2. The need for leadership should be clearly identified before establishing programs of leadership development.

3. Common elements should be identified that can be applicable to all leadership positions.

4. Special attention must be given to the needs created by new directions in vocational and technical education.

5. Experimental projects in leadership education of both short and long-range duration are needed.

6. Cooperation among university, state department of education, and local institutions is paramount to success of program development.

7. Leadership developmental programs should include:

   a. Emphasis on inter-relationships of activities between vocational education services and related disciples.
   b. Public information techniques.
   c. Improved communications at all levels.
   d. Articulation between various educational levels.
   e. Relationship of leadership to a total program of vocational education.
   f. An understanding of the political, social and economic relationship of vocational and technical education.
   g. Both formal instruction and supervised experience in leadership positions.

THE LEADERSHIP ROLE IN THE SERVICE ACTIVITIES (ADMINISTRATION, CURRICULUM DEVELOPMENT, RESEARCH, GUIDANCE, ETC.) OF VOCATIONAL EDUCATION

The programs currently being conducted to provide leadership development are varied, having been initiated by national, state and local institutions, as well as professional organizations and other administrative units. The common threads within each of these programs centers upon an advanced level of preparation, the inclusion of both academic course work and practical leadership experience and design across traditional service lines.

The role of the teacher educator in vocational education leadership development will be to serve as a team member with state department of public instruction, and local educational agency administrators in the design and execution of viable programs to prepare individuals for leadership positions. As a member of this leadership development team, the teacher educator will have major responsibility in:

1. <u>The identification of leadership needs</u>:

   a. What is the quantity and characteristics of existing and anticipated leadership needs?
   b. Where does leadership need exist?
   c. With whom (both groups and individuals) must the leader be prepared to work?

2. <u>The development of appropriate leadership programs</u>:

   Appropriate leadership education for vocational education personnel must be available both in non-credit preparation and in graduate-level programs. The prospective vocational education leader must be provided a broad understanding of the total educational program. Any program developed must be in accord with degrees and credentials required by employing institutions. Throughout the teacher education program, consideration must be given to:

   a. What can be done on the undergraduate level that will assure each prospective teacher's obtaining an understanding of the relationship of his teaching assignment to the total program of vocational education.
   b. What can be identified as leadership abilities common to all personnel in business, industry and education.
   c. What is a common core of experiences which should be received by all vocational education leaders.
   d. What should be provided vocational education leaders to prepare them for specialist duties in administration, supervision, guidance, research, etc.
   e. What knowledge and experiences must be provided the vocational education leader regarding each service area.

3. <u>Identification and selection of potential leaders</u>:

   The selection of qualified leadership trainees will be essential to the program's success. It will be important that flexible but exacting standards

of program entry be established. To maintain satisfactory standards, the program must recruit appropriate individuals, as well as the individual seeking the program.

THE IDENTIFICATION AND CONDUCT OF NEEDED RESEARCH, EXPERIMENTAL AND DEMONSTRATION PROGRAMS IN LEADERSHIP EDUCATION

The teacher educator has the responsibility for initiation and development of needed vocational education research activities which can give direction to leadership education. Programs must be investigated and carefully developed which will provide leadership on the horizontal plane, not restricting leadership to persons only in state positions but applying to innovators on the local, state, regional, and national levels and in all areas of activities concerned with vocational education.

The following are suggested areas of concern which need to be considered in research, experimental and demonstration programs of vocational leadership education:

1. What research or experimental programs have previously been conducted in the area of leadership education, both in the field of vocational education and in other fields which would apply.

2. What are the opportunities for leadership in vocational education.

3. What is unique about leadership in vocational education and is different from leadership abilities required in other disciplines.

4. What are the predictive indicators of potential leadership and how are these conceived by the varying administrative personnel: i.e., principals, superintendents, state supervisors, vocational directors, teacher educators.

5. What is essential content regarding vocational education for leaders that relate to the service fields of home economics, agriculture, industrial education, and business education. Are there common considerations regarding these service programs which all leadership personnel should understand.

6. What is the relationship between leadership and creativity.

7. What are the barriers to leadership.

8. How should vocational education as it relates to leadership education be defined, and in what sphere of influence must the vocational leader be prepared to function.

9. How can we identify potential leaders in vocational education, both in pre-service and in-service situations. How can these identified potential leaders be given special opportunities and experiences which will allow them to develop their leadership abilities.

10. What is the relationship between the leadership function and what a leader actually does in his role in a local institution.

11. What is the relationship of the state organization for vocational-technical education as it influences leadership within vocational education.

CONCLUSIONS AND RECOMMENDATIONS

In view of the critical need for effective leadership in vocational education, it is recommended that the following conclusions be seriously studied regarding appropriate action to be taken:

1. That appropriate regional and national conferences, seminars, and workshops should be provided to further develop the concept of leadership education in vocational education.

2. That each state appraise its needs for leadership in vocational education and initiate appropriate activities which will meet those needs.

3. That teacher educators work as a team member with state department of education, local educational institutions, and other contributing agencies to develop leadership education in their state.

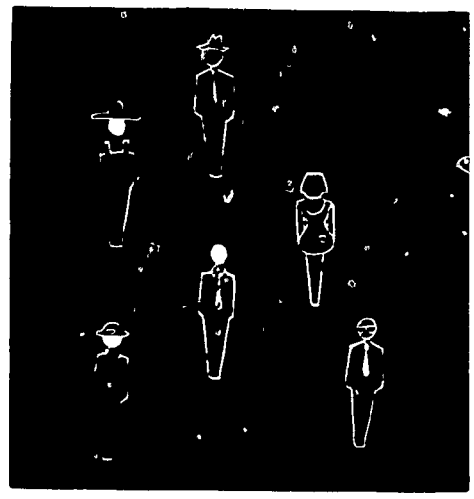
4. That priority be given to the implementation of research, experimental and demonstration programs needed to clarify the leadership function.

5. That teacher educators seek to revise existing pre-service programs for all vocational education service areas so as to provide for the inclusion of subject matter common to all services.

6. That field experience (internships) in vocational education leadership be provided which includes all service areas and encompasses a cross section of leadership activities in addition to college course work.

7. That extensive and continuing programs of in-service leadership education be provided for vocational education personnel.

8. That the teacher educator serve in a capacity of coordination between the university, the state department of education, and related disciplines for the bringing to bear of all relevant forces for the implementation of vocational education.



APPENDIX

LIST OF VOCATIONAL SERVICE AREA GROUP LEADERS

SESSION I — *TOPIC: Emerging Approaches in the Professional Education of Vocational-Technical Teachers*

SESSION II — *TOPIC: Recent Developments in Providing Major Field Field Content Education*

SESSION III — *TOPIC: Innovative Approaches in Providing Occupational Experiences for Vocational & Technical Teachers*

Agricultural Education

Chairman: James P. Clouse, Chairman of Agricultural Education Section, Purdue University.

Resource Person: Lloyd J. Phipps, Professor and Chairman of Agricultural Education, University of Illinois.

Recorder: Cecil H. Johnson, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Business and Office Education

Chairman: Russell J. Hosler, Professor of Business Education, The University of Wisconsin.

Resource Person: Fred S. Cook, Chairman of the Business and Distributive Education Department, Wayne State University.

Recorder: Marla Peterson, The Center for Vocational and Technical Education, The Ohio State University.

Distributive Education

Chairman: Anacile Riggs, State Supervisor of Distributive Education, Montgomery, Alabama.

Resource Person: Richard D. Ashmun, Assistant Professor of Distributive Education, The University of Minnesota.

Recorder: Kenneth E. Hoffman, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Home Economics Education

Chariman: Hazel Anthony, Chairman of the Department of Home Economics Education, The University of Nebraska.

Resource Person: Marie P. Meyer, Associate Professor, the Department of Vocational and Technical Education, Rutgers, the State University.

Recorder: Patricia Smith, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Technical Education

Chairman: Jerry S. Dobrovolny, Professor and Head of the Department of General Engineering, The University of Illinois.

Resource Person: Joseph P. Arnold, Associate Professor, the University of Michigan.

Recorder: James G. Bennett, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Trade and Industrial Education

Chairman: Earl M. Bowler, Assistant Director of the Program Service Branch, The U. S. Office of Education.

Resource Person: Ralph C. Wenrich, Professor of Vocational Education, The University of Michigan.

Recorder: Raymond Reisenger, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

SESSION II

Agricultural Education

Chairman: Walter T. Bjoraker, Chairman of the Department of Agricultural and Extension Education, The University of Wisconsin.

Resource Person: Lowrey H. Davis, Professor and Head of the Department of Agricultural Education, Clemson University.

Recorder: Cecil H. Johnson, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Business and Office Education

Chairman: William Jennings, Professor of Business Education, The Ohio State University.

Resource Person: Calfrey C. Calhoun, Professor and Chairman of the Business Education Department, The University of Georgia.

Recorder: Marla Peterson, Activities Coordinator, The Center for Vocational and Technical Education, The Ohio State University.

Distributive Education

Chairman: Adrian Trimpe, Teacher Educator in Distributive Education, Western Michigan University.

Resource Person: Leroy M. Buckner, Coordinator of Distributive Teacher Education, Florida Atlantic University.

Recorder: Kenneth E. Hoffman, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Home Economics Education

Chairman: Margaret Barkley, Professor of Home Economics, Arizona State University.

Resource Person: Joyce Terrass, Teacher Educator of Home Economics, Purdue University.

Recorder: Patricia Smith, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Technical Education

Chairman: Lewis R. Fibel, Specialist in Occupational Education, The American Association of Junior Colleges, Washington, D. C.

Resource Person: Gordon McMahon, Director of Vocational and Technical Education, State University College, Oswego, New York.

Recorder: James G. Bennett, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Trade and Industrial Education

Chairman: Robert M. Reese, Director of Trade and Industrial Education Service, The Ohio State University.

Resource Person: Carl J. Schaefer, Chairman of the Department of Vocational-Technical Education, Rutgers, The State University.

Recorder: Raymond Reisenger, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

SESSION III

Agricultural Education

Chairman: Earl H. Knobel, Head of the Agricultural Education Department, Texas A & M University.

Resource Person: W. Howard Martin, Professor of Education, The University of Connecticut.

Recorder: Cecil H. Johnson, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Business and Office Education

Chairman: F. Wayne House, Professor of Education, the Pennsylvania State University.

Resource Person: Frank Lanham, Associate Professor, The University of Michigan.

Recorder: Marla Peterson, Activities Coordinator, The Center for Vocational and Technical Education, The Ohio State University.

Distributive Education

Chairman: Calvin D. Lowe, Director of the Management Institute, The Utah State University.

Resource Person: Lucy C. Crawford, Associate Professor of Distributive Education, Virginia Polytechnic Institute.

Recorder: Kenneth E. Hoffman, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Home Economics Education

Chairman: Marion H. Brown, Teacher Educator of Home Economics, The University of Vermont.

Resource Person: Anna M. Gorman, Associate Professor of Home Economics Education, The University of Kentucky.

Recorder: Patricia Smith, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Technical Education

Chairman: Donald S. Phillips, Chairman of the Technical Education Department, Oklahoma State University.

Resource Person: Robert A. Knoebel, Assistant Director of the Bureau of Community Colleges, The Commonwealth of Pennsylvania.

Recorder: James G. Bennett, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

Trade and Industrial Education

Chairman: Merle E. Strong, Director of the Program Services Branch, The U. S. Office of Education.

Resource Person: Durwin M. Hanson, Professor and Head of the Industrial and Technical Education Department, North Carolina State University.

Recorder: Raymond Reisenger, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

TASK FORCES PERSONNEL FOR THE SPECIAL INTEREST GROUP SESSIONS

EDUCATION FOR VOCATIONAL-TECHNICAL HIGH SCHOOL TEACHERS

TASK FORCE PERSONNEL

Session Leaders: Monday, C. C. Scarborough, Professor and Head of Agriculture Education Department, North Carolina State University.
Wednesday, Vernon Musselman, Professor of Education, University of Kentucky.
Thursday, Helen A. Loftis, Professor of Home Economics Education, Winthrop College, Rock Hill, South Carolina.

Resource Person: James W. Hensel, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: Cecil H. Johnson, Research Associate, The Center for Vocational and Technical Education, The Ohio State University.

EDUCATION FOR VOCATIONAL-TECHNICAL POST-HIGH SCHOOL TEACHERS

TASK FORCE PERSONNEL

Session Leaders: Monday, Harland Samson, Associate Professor of Distributive Education, The University of Wisconsin.
Wednesday, Lewis R. Fibel, Specialist in Occupational Education, The American Association of Junior Colleges.
Thursday, L. C. McDowell, Teacher Educator in Trade and Industrial Education, The University of Kentucky.

Resource Person: Aaron J. Miller, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: James G. Bennett, The Center for Vocational and Technical Education, The Ohio State University.

EDUCATION FOR VOCATIONAL-TECHNICAL ADULT TEACHERS

TASK FORCE PERSONNEL

Session Leaders: Monday, John G. Lipps, Lecturer in Vocational Teacher Education, The University of Pittsburg.
Wednesday, John N. Rodgers, Head of Agricultural Education, Virginia Polytechnic Institute, Blacksburg.
Thursday, Irene Beavers, Associate Professor of Home Economics, Iowa State University.

Resource Person: Calvin J. Cotrell, The Center for Vocational and Technical Education, The Ohio State University.

Recorder: Raymond Reisenger, The Center for Vocational and Technical Education, The Ohio State University.

EDUCATION FOR VOCATIONAL-TECHNICAL TEACHERS OF PERSONS WITH SPECIAL NEEDS

TASK FORCE PERSONNEL

Session Leaders: Monday, Sylvia G. McCollum, Program Planning Officer, Division of Adult and Vocational Research, Bureau of Research, the U. S. Office of Education.
Wednesday, Estelle L. Popham, Chairman of the Department of Business Education, Hunter College, New York.
Thursday, Francis A. Gregory, Associate Director for Manpower Support Programs, Office of Manpower Policy, Evaluation and Research, The U. S. Department of Labor.

Resource Person: Harry Huffman, The Center for Vocational and Technical Education, The Ohio State University.

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VOCATIONAL-TECHNICAL LEADERSHIP EDUCATION

TASK FORCE PERSONNEL

Session Leaders: Monday, Darrell L. Ward, Coordinator, Vocational Teacher Education, Oregon State System of Higher Education.
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