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SEMINAR ON PLANNING DEVELOPMENTAL AND RELATED PROGRAMS IN OCCUPATIONAL EDUCATION. CENTER SEMINAR AND CONFERENCE REPORT, NUMBER 6.

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NORTH CAROLINA UNIV., RALEIGH, N.C. STATE UNIV.

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TWENTY-FIVE PUBLIC SCHOOL PERSONNEL RESPONSIBLE FOR CONDUCTING RESEARCH ACTIVITIES IN OCCUPATIONAL EDUCATION ATTENDED A SEMINAR WHERE THE OBJECTIVES WERE -- (1) TO STIMULATE THE INITIATION OF INNOVATIVE PROGRAMS IN OCCUPATIONAL EDUCATION AT THE LOCAL ADMINISTRATIVE LEVEL, (2) TO ASSIST LOCAL OCCUPATIONAL EDUCATION PERSONNEL IN PLANNING SUCH PROGRAMS, AND (3) TO DEVELOP STRATEGIES BY AND THROUGH WHICH THE CENTER MAY PROVIDE CONSULTATION AND ASSISTANCE FOR SUCH PROGRAMS IN COOPERATION WITH RESEARCH COORDINATING UNITS AND OTHER RESEARCH ORGANIZATIONS. PAPERS PRESENTED WERE (1) "THE NEED FOR DEVELOPING A NEW KIND OF VOCATIONAL PROGRAM," BY LLOYD G. BENHAM, (2) "A DESCRIPTION OF THE HUDSON, OHIO, PILOT PROGRAM IN VOCATIONAL EDUCATION," BY LLOYD G. BENHAM AND MARY PACE, (3) "ESTABLISHING OBJECTIVES AND DEVELOPING PROCEDURES FOR DEVELOPMENTAL, PILOT, AND INNOVATIVE PROGRAMS," BY LLOYD PHIPPS, AND (4) "EVALUATION OF DEVELOPMENTAL, PILOT, AND INNOVATIVE PROGRAMS," BY LLOYD PHIPPS. RESOURCES AVAILABLE FOR INNOVATIVE PROGRAMS THROUGH RESEARCH COORDINATING UNITS WERE DISCUSSED BY JAMES E. WALL, THROUGH THE CENTER FOR OCCUPATIONAL EDUCATION, BY JOHN K. COSTER, THROUGH THE REGIONAL U.S. OFFICE OF EDUCATION, BY THEODORE L. ABELL, THROUGH THE REGIONAL EDUCATION LABORATORIES, BY JOHN FORBES, AND THROUGH THE U.S. OFFICE OF EDUCATION IN WASHINGTON, BY EDWIN CRAWFORD. SUMMARIES OF PARTICIPANT REACTIONS ARE INCLUDED. (EM)

SEMINAR ON PLANNING DEVELOPMENTAL AND RELATED PROGRAMS IN OCCUPATIONAL EDUCATION

CHARLES H. ROGERS AND C. CAYCE SCARBOROUGH

SEMINAR CHAIRMEN

DEPARTMENT OF AGRICULTURAL EDUCATION

NORTH CAROLINA STATE UNIVERSITY AT RALEIGH

SPONSORED BY

REGION IV OFFICE OF THE BUREAU OF ADULT AND VOCATIONAL EDUCATION

AND

THE CENTER FOR OCCUPATIONAL EDUCATION

Center Seminar and Conference Report No. 6

CENTER FOR OCCUPATIONAL EDUCATION

NORTH CAROLINA STATE UNIVERSITY AT RALEIGH

1966

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

OFFICE OF EDUCATION—BUREAU OF RESEARCH

DIVISION OF ADULT AND VOCATIONAL RESEARCH

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RESEARCH-DEVELOPMENT-TRAINING

The Center for Research, Development, and Training in Occupational Education was approved and established as a Research and Development Center in 1965, under the provisions of Section 4(c) of the Vocational Education Act of 1963. The initial approval was for 20 months, ending 31 January, 1967. The proposal for the continuation of the Center for five years, beginning 1 February, 1967, has been approved and the continuation program is in operation. The total program, which has emphasized research in crucial problems in occupational education since its inception, has been divided into five complementary programs, including a research program, an evaluation program, a research development program, a research training program (in occupational education), and a services and conferences program. The Center is designed and organized to serve the nation, with special orientation to the southern states.

The Center is part of the program conducted under the auspices of the Educational Resources Development Branch, Division of Adult and Vocational Research, Bureau of Research, Office of Education, U. S. Department of Health, Education and Welfare. The Center is located at North Carolina State University at Raleigh, and has been established as an integral unit within the University. The program of the Center cuts across the Schools of Agriculture and Life Sciences, Education, Liberal Arts, and Physical Sciences and Applied Mathematics at North Carolina State University at Raleigh. Cooperating and participating Departments include the Department of Adult Education, Agricultural Education, Economics, Experimental Statistics, Industrial and Technical Education, Occupational Information and Guidance, Politics, Psychology, and Sociology and Anthropology.

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SEMINAR ON PLANNING DEVELOPMENTAL AND RELATED PROGRAMS IN OCCUPATIONAL EDUCATION

Project No. DAVR 5-1005
Contract No. OE-5-85-107

CHARLES H. ROGERS AND C. CAYCE SCARBOROUGH
Seminar Chairmen

1966

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The seminar reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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Center Seminar and Conference Report No. 6

CENTER FOR OCCUPATIONAL EDUCATION
North Carolina State University at Raleigh
Raleigh, North Carolina

PREFACE

The seminar reported in this publication was the second of two seminars conducted by the Center for Occupational Education to assist personnel in vocational and technical education to plan developmental and related programs in occupational education. The first seminar, which was held at North Carolina State University at Raleigh, was designed for personnel at the local administrative level in the states that comprise Region III. The second seminar included personnel from state divisions of vocational education and personnel in local administrative units from the states that comprise Region IV.

The Region IV seminar was held in the office of Region IV of the U. S. Department of Health, Education, and Welfare. The seminar was planned and sponsored jointly by the Region IV Office of the Bureau of Adult and Vocational Research and the Center for Occupational Education. B. E. Childers, Regional Representative of the Bureau of Adult and Vocational Education for Region IV, and Malcolm Gaar, Program Specialist for Region IV, were instrumental in organizing and arranging for the seminar. Their cooperation and assistance are acknowledged by the Center. Acknowledgement also is due to Charles H. Rogers, and C. Cayce Scarborough of North Carolina State University at Raleigh who were seminar chairmen.

It is a pleasure to express the indebtedness of the Center to the consultants who contributed to the program including Lloyd G. Benham and Mrs. Mary Pace, Hudson High School, Hudson, Ohio; Lloys J. Phipps of

the University of Illinois; Theodore L. Abell of the Region IV Office of the U. S. Department of Health, Education, and Welfare; Edwin Crawford of the Division of Vocational and Technical Education, U. S. Office of Education; John Forbes of the Southeastern Educational Laboratory at Atlanta; and James E. Wall of the Mississippi Research Coordinating Unit.

John K. Coster, Director
Center for Occupational Education

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INTRODUCTION

Many people have been talking about Innovative Programs in Occupational Education. The Vocational Education Act of 1963, especially the hearings connected with this legislation, gave a national "push" to the consideration of innovative programs. Many strong supporters of vocational education clearly indicated that "more of the same" would not be adequate nor acceptable in the years ahead.

The Regional Seminar for Local Personnel recognized the need to involve directly those people closest to the on-going programs in all areas of occupational education. There are two major reasons for this basic guiding principle. First, the local directors and teachers are working "where the action is." If innovative programs are really going to take place, a key point of change will be at the local level. Second, local leaders are frequently not included in conferences and seminars devoted to discussing innovative programs. For these two major reasons, effort was made to invite people directly involved in local programs in all areas of occupational education. Participation at the seminar and comments from those attending indicated that the assumptions underlying the involvement of local leaders were sound, and that further involvement of other local leaders, such as high school principals, was greatly needed.

Major presentations of the seminar are included in this report, along with pertinent reactions of seminar participants developed in small group work sessions. No attempt was made to report the minute details of

the seminar, but rather, to present major contributions which impacted on the seminar objectives.

Follow-up of this Regional Seminar in the various states represented is planned by Dr. Charles Rogers of the Center for Occupational Education, who cooperated in planning and conducting the seminar.

C. H. R.
C. C. S.

OBJECTIVES OF THE SEMINAR

1. To stimulate the initiation of developmental, experimental, demonstration, pilot, exemplary, and innovative programs in occupational education at the local administrative level.

2. To assist local occupational education personnel in planning such programs.

3. To develop strategies by and through which the Center may provide consultation and assistance for the initiation and execution of developmental and related programs in cooperation with Research Coordinating Units and other research organizations.

PROGRAM PLANNERS

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Mrs. Mary Pace, Vocational Supervisor, Hudson Public Schools, Hudson, Ohio

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James E. Wall, Director, Research Coordinating Unit, Mississippi State University, State College, Mississippi

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The participants for this seminar included local public school personnel who have responsibilities for directing, supervising, or conducting research activities in occupational education, and who have a keen interest in planning and initiating innovative programs and projects. Participants are, indeed, consultants to the Seminar and the Center.

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THE NEED FOR DEVELOPING A NEW KIND OF VOCATIONAL PROGRAM

Lloyd G. Benham, High School Principal
Hudson, Ohio, Public Schools
Hudson, Ohio

It is indeed a pleasure for Mrs. Pace and me to be here in Atlanta today. I have an idea why we are here, but I am uncertain of how or why each of you received an invitation. It could be one of two reasons: it may be because your immediate supervisor or someone above you believes you to be interfering with their standard program of vocational or occupational education, or it could be you were chosen because they feel you are people with ideas that could improve these programs, if given the opportunity. I would hope it to be the latter.

Let me say that we are not experts, although we are far enough away from home today to qualify as such. Neither do we profess to have answers to many educational problems, so, we are not professors.

My co-worker, Mrs. Pace, has a title of Vocational Supervisor. We do not know for sure what this is, but neither does anyone else, so we are safe in that respect. I have a title of high school principal. Most people know what a principal is, and we all know very few are safe in any respect. Someone recently described a principal as being a mouse who is trying to become a rat. This sounded good to me until I heard a national figure in education tell what a superintendent should and should not do, then I became very confused. The question was asked of this national figure if he though superintendents should be leaders in curriculum changes. His reply was: "For heavens sakes, no. The superintendent should buy the soup, the soap and the paper, and let the teachers who have the students work

out the the required changes, if they are to be successful."

I, too, am convinced that changes in education cannot be developed at an upper level and handed down to the teachers. But somewhere along the way, someone must plant a few seeds around some imaginative teachers if anything is expected to happen. I know of very few teachers who are completely satisfied with what they are doing. Most teachers have ideas for improvement, but, for numerous reasons, are not given the opportunity and time to develop their ideas.

I see in the profession at the public school level an extreme amount of time, money, and effort being devoted to improved teachers salaries and working conditions, but a very small amount of time, effort, and money are going into the development for improved programs at the local level. Other than an unlimited number of gadgets developed to make learning easy, Modern Math is the only significant change to come about in education during the past 10 years that has been universally accepted.

But, let me say quickly, do not give these teachers the responsibility of developing new programs during the school year at a time when they are already carrying a full load or more with a teaching assignment. Think of employing those involved for one or two months in the summer, when the pressures are off and the teachers have a clear mind to reflect on what they have been doing and ways of improving or changing for better results. Of course, this takes extra money, so if your system is like most of the ones I am acquainted with, it will take some real salesmanship on your part to get started. Maybe this is an area where you can use your school superintendent to assist. Teachers are natural salesmen (that is, if they are good teachers) so they will not permit the lack of money to block their way if

there is a sincere desire for improved educational programs for their students. Select personnel who are brave, intelligent, and willing to dare, because they may have to fight city hall along the way at some point. We have heard that people involved in change should not be extroverts or introverts. I am not sure that there is an in between, but maybe so.

In Ohio, we have the same problems that all high schools are facing in the United States. Eighty percent of the high school students in Ohio are scheduled into college preparatory classes. Thirty percent of these students enter college. Out of every 100 students entering first grade, twenty-five will be drop-outs before the end of twelve years. I frequently think how embarassed we should be for losing twenty-five percent of our students before completion of high school. I wonder if it is the students who fail or is it the school and the conditions we create that are causing these students to drop out or flunk out.

I am not critical of the college preparatory programs-they are stronger now than ever before. They should be, after so much work and money have been spent by the states and federal government over the past ten years. But I am very critical of the fact that programs have not been developed to take better care of the majority of our secondary school students. All of us in the profession are guilty of permitting this to happen. Many of the students enrolled in the college prep program are there because it is the lesser of two evils. There have been times in my experience when I felt it was really the smart students who were dropping out rather than the students of lower ability, and some of these students had valid reasons for doing so.

It is my opinion that there cannot be a universal single best program that can be used in all schools. This statement may make vocational educators a bit uneasy, but when you see what has happened to the vocational high schools in New York City and some of the other eastern cities, you get the message. It has been reported that all but two of New York City's nine vocational high schools are closing their doors and the vocational programs are being placed in the comprehensive high schools. Cleveland, Ohio, and the Boston area are experiencing the same difficulties as did New York. And, remember, these were the first areas to have vocational schools dating back to the early 1900's.

It concerns me to hear educators use the term "meeting the needs of students". To many people, both in and outside the ranks of education, meeting the needs is to: provide bus transportation, hot lunches, drinking fountains, restrooms, and beautiful buildings. Granted, these are important, but they hardly meet the real needs of any individual's educational development.

Just for a minute, go back to your own school. What are the complaints you hear most often from parents and the community? I would hazard a guess that it is the "4-B's". Busses, beans, buildings, and basketball! Seldom do you ever hear the parents criticize the curriculum their child is exposed to! Because of community pressures, issues centering around the "4-B's" have forced leaders in school systems to devote more and more time to the things farthest away from the classroom.

Hudson High School, where Mrs. Pace and I are employed, presently has an enrollment of 700 high school students. Hudson is a suburban area located between Akron and Cleveland, and is in a cluster of other industrial

cities in northeastern Ohio. In 1960, we began to keep a follow-up record of our graduating students. By 1964, we had some very revealing and shocking information, at least to me it was. Approximately seventy percent of our students were enrolling in college after high school. At the end of two years, approximately fifty percent were still in school, but only thirty percent were sticking it out for a four-year degree.

In 1964 and '65, eighty percent of our graduating seniors were entering a two or four-year college. I only bring these figures up to give you a little idea of the type of community in which we work. It is a community that is "prestige conscious," and the thing to do to be "IN" is to enroll in college. The remaining twenty percent of our student body were enrolled in what we called a general course. It consisted of watered-down college preparatory courses, plus good industrial arts, home economics, and business education facilities.

This is the way we thought we were meeting the needs for those enrolled in the general curriculum. As our school enrollment was growing, our enrollment was unrealistically increasing. We had problems, and I imagine many of you are faced with these same problems. Our counselors were doing their best to inform many students and their parents that they did not belong in the college preparatory program, but when they were questioned by these same students and parents of other possibilities, the counselors were stymied and immediately had to defend a program that they knew was not worth very much except for accumulating required credit toward graduation.

With the results of the four years of research on our former graduates, our guidance department made a report of their findings to the

Board of Education. So, now more people were beginning to wonder what could be done.

Our first move was to contact the State Department to get, in some detail, what we could put into our school program in the line of vocational training that would have a more realistic approach than the general course of study being used. The only thing we did find out was that they could not help. Perhaps I would have been as well off spending my day in the furnace room with the janitors. Those fellows always have a philosophy and sage advice to offer on any subject.

Our school district is what Ohio calls "a non-additional aid district," which means that a minimum amount of state financial support is given. More money goes to the so-called poorer districts in the state. The State Department was quite willing for us to push for formation of an area vocational high school which involves a number of local districts. But there seemed to us better ways of approaching the problem of vocational education without its being so complicated, so we turned our efforts to investigating what other schools were doing. This did not consume much time, because, even though all recognized the lack of a going program, very few were giving it a second thought.

Our second move was with the staff who were teaching these students. The industrial arts and home economics teachers were well aware that they were losing students regardless of how much they tried to improve their programs. All evidence of Industrial Arts at the 11th and 12th grade years indicated it was dead, so, we decided to bury it and start a new approach. Home Economics also needed changes if it was to be appealing, so things did begin to happen within our teaching staff. The students were surveyed

to see what they thought they wanted. This told us more. Parents were informally questioned about their concern for their child's education.

A breakfast was held with a dozen business and industrial men brought in to discuss our problem with us. They were very helpful, and the thing that I remember most came from the personnel director of a large General Motors plant in our district who said, "Teach the people to be honest and dependable. If you do that much, we will train them to our needs when employed."

Looking back at our approach, it would appear we were doing what Frank Robinson or Mickey Mantle tries to do as he comes to bat each time; that is, to knock a home run. We used the students as home plate, the staff at first, parents at second, and the taxpayers on third. The position of administration was the pitcher's mound, which is the closest position to all bases. Did you ever hear of a home run hitter being called out because he hit one out of the ballpark and missed a base? They know it is important to touch every base if they are to score, and we were well aware of the need to touch every base if we were to score.

With the information gained from the students, parents, business and industry, and a considerable amount of brain storming with teachers involved, we had gathered sufficient information to get us started. The objectives we developed were as follows:

1. To replace the general curriculum for the non-college preparatory student with a pre-vocational education program.

2. To provide all students not planning a college education with pre-vocational training in the school or work experience in the local community.

3. To re-evaluate and adjust the basic education program and to

make all courses more stimulating and realistic for students.

4. To develop a broad educational program which would help to improve student attitudes toward themselves, school and work, and to make high school a more worthwhile learning experience for non-college oriented students.

Being an administrator, I continually kept making the same mistakes over and over in the development of the program. I could see the cost projecting into something that I personally felt was not possible. Often, I thought teachers and counselors were real dreamers, but each time they referred me back to the original objectives to quiet me down.

Upon completion of the first draft of the program, the projected estimate of cost for it was approximately $40,000, which included equipment and four additional staff members. A presentation of the program was made to our own board of education. My proposal was that they pay up to $20,000 and I would contact The Ford Foundation to see if this program would qualify for a grant.

It took only a week to get an answer back, a very pleasant letter, but the answer was "No". They had just recently given a grant to a school in Massachusetts with a similar proposal. However, they felt our program was sound and suggested we contact the U. S. Office to see if they might assist with money made available through the 1963 Vocational Education Act, for pilot and experimental programs.

A telephone call to the U. S. Office of Education was made and within three days we had a stack of material and forms which required us to tell in detail our complete program. Our proposal was then completed and went to the U. S. Office late in February. Those of you who have dealt with

federal offices have some knowledge of the time it takes to get action or even answers. March and April passed. Late in May we had a call from Washington with the first encouraging news, which was a request to send someone from the U. S. Office to our school to get more detail on the program, the school, and the personnel involved.

This is where the tempo really picked up. Shortly after the visit, we had word of temporary approval and were given a green light to proceed with required remodeling and purchasing of equipment and employment of additional personnel. As in any new program, many changes were needed before we started and, in reworking our final budget, the total first year expenditures jumped to $70,000. This was approved in early July by the U. S. Office of Education.

We found the personnel at both The Ford Foundation and the U. S. Office of Education thinking along the same lines that our staff was thinking. That was to develop a realistic program and prepare students who were not planning for college with some type of training that would at least give them one step toward the door of successful employment. Vocational education, as is presently offered, will not do this for many students.

It was extremely encouraging for those of us involved with the U. S. Office to learn of their deep convictions, concern, and interests in a program for all students. Their work is not nearly as far removed from students as we had thought. The same is true with The Ford Foundation that provided us with a substantial travel grant to have us visit programs in Massachusetts and San Francisco which they had granted.

In summarizing the need for new programs and ways it can be done, I

would like to again mention the following points:

1. There is a definite need to develop a program for all students, and to change the approach in many of the academic areas to make education more appealing to those learning. Get away from text books and grades. I know, and you know, that grades are used more for motivation purposes than for evaluation. The students that I am talking about already know and have experienced poor grades, so why keep throwing these thorns in their paths and expect them to willingly walk over them.

2. Get teachers involved. This is easy, and most of them already know the short-comings of their own program. Many of them will have ideas for improvement, and in doing so, try to clear away the old rules and regulations which stymie, immediately, teacher "initiative." These could be local, county, or state regulations. If a new program is to be effective, the teachers must be completely involved from the start. Free the teachers and pay them for this work.

3. Don't be led down a dead-end road by copying exactly what other schools are doing. Develop a program for your own students from specific needs in your school or community.

4. Become aware of the research findings that have been completed in the areas in which you want to improve. Educators probably use completed research less than any other profession. We have found it very easy to get trained people outside our system to do the required research for our program.

5. Money is available for new programs, but you have to go look for it.

6. A new curriculum, no matter how carefully developed, is not

proof against poor classroom instruction. If you want to change, involve your best teachers.

7. Schools must attempt to build into curriculum the opportunity for the student to develop a wholesome attitude that comes from having a sense of contribution, and sense of being of value to someone else. The role of a passive sitter and absorber of knowledge is not particularly gratifying.

8. In development of programs, be sure to touch every base if you want to score: students - teachers - parents - and taxpayers.

A DESCRIPTION OF THE HUDSON, OHIO, PILOT PROGRAM IN VOCATIONAL EDUCATION

(Mrs.) Mary P. Pace, Vocational Supervisor
Hudson, Ohio, Public Schools
Hudson, Ohio

Mr. Benham mentioned that no one is quite sure what a Vocational Supervisor is, and therefore, we are fairly safe in that respect. Of one thing we are certain, and that is that such people are rarely of the female gender. This has something to do with seven years experience in operating a turret lathe, or perhaps a Heidelberg press, which I readily admit are not among my present skills.

This experience requirement may be valid in the long-accepted approach to vocational education, but educational training and experience in working with and understanding the non-college student are equally important if we are concerned with him as a complete personality.

In the last two years a lot of people have been doing some serious thinking about new trends in occupational education. With the extensive changes taking place in technological, economic and social conditions, satisfaction with things as they are has become impossible.

Much of the urgency for change has come directly from the very people who are, and will continue to be, most affected by the upheaval in every area of our lives, namely, the students in our schools.

Meeting the needs of the student who will complete his formal education in high school has become an immediate and complicated challenge. Sociological changes have shifted to the school many of the responsibilities previously accepted by the family. Many educators fight

this trend as an inappropriate function of the school, but attitudes and character development are so inter-related with successful learning and functioning that we defeat our purposes if we deny this role.

Vocational education should, by definition, prepare an individual in the skills, attitudes and knowledge which will enable him to serve the society in which he lives, in a way which will be satisfying and productive to him as a person. Unfortunately, such training is neither presently available nor appropriate to the vast majority of non-college students.

The Hudson program is attempting to provide education leading to occupational adequacy for <u>all</u> students. It is not our purpose to turn out skilled technicians; this is not practical, nor what industry wants. Our job is to develop in our young people the interests, attitudes and competencies which can be generalized to meet the changes of jobs, the technological developments and demands of mobility which every individual will encounter during his lifetime. Life is not limited to a vocation, and students must be prepared for whatever may come their way. This, I think, is what we mean by such overworked phrases as "educating the whole child" and a "comprehensive curriculum."

All of you are familiar with the structure of the usual vocational program. Your question to us may well be, "What is new or different about the Hudson Plan"? I will try to describe for you the innovations which we feel have given life and effectiveness to an old idea.

At a recent conference, the tone was set by an entertaining story on What's What? I would like to paraphrase that theme a little and make it "What's New?" Perhaps Dr. Scarborough or Dr. Rogers will bring you

up to date on "What's What?" while you are here.

1. Perhaps the most novel thing we have done is develop a <u>total</u> program in a small comprehensive high school. Every phase of our curriculum, be it academic, manipulative skill, counseling, community-related job placement, is aimed at one common goal: the best learning methods for the individual student.

Many of the techniques, if detached from the total picture, have been used in isolated situations in our own school and elsewhere, but their real effectiveness become evident when the efforts of all teachers and disciplines are joined to create a planned and student-focused impact.

2. This presupposes a student-centered program. A survey of student interests and desires prior to the beginning of the instructional phase guided our choice of occupational training. The idea was to fit the program-individually where necessary-to the students, rather than force conformity to predetermined patterns. The student preferences, plus a study of employment needs in the community, gave us a practical basis for skill offerings.

A carefully chosen nucleus of the staff spent the spring and summer of 1965 developing the experimental curriculum. At the very outset, flexibility was built into the program to allow for individual differences, and the quick adjustment of techniques found to be ineffective. In other words, rigid structuring, the required use of textbooks, usual testing procedures, the "learn what we teach or else" approach were replaced by student interest-centered activities, rich experiences in observation, manipulative skills, and greatly increased personal counseling.

Laboratory units in skill training were set up in Auto Mechanics,

Homemaking and Child Care, Cosmetology and Graphic Arts. The existing Business Training and Industrial Arts areas were increased.

3. Having developed a framework, we determined the timing of training. The usual pattern puts vocational training in the final two years of high school. We felt that a broader knowledge of occupational areas would enable students to make more informed choices for concentrated skill training. So we set up a program of introductory work in a wide variety of occupational skills. Ninth and tenth grade boys and girls are exposed to eight kinds of work training. Nine weeks are spent on each skill and while the student discovers what areas have special appeal, the skilled instructors can evaluate individual student aptitudes, and guide them toward appropriate choices for the concentrated training provided in eleventh and twelfth grades.

The laboratories represent trades in high demand in our area. Previously students at junior and senior level were restricted to Machine Shop, Home Economics, or Business courses. Now they have the additional choices of Auto Mechanics, Graphic Arts, Cosmetology, Child Care, or work training in a variety of skills outside the school.

The process can best be illustrated as a funnel concept, which has been given to you.

4. Provided concurrently with this introduction to varied skills is the ninth-grade course in Occupational Information. Classroom work is subordinated to first-hand acquaintance with the world of work outside the school. Observation of and direct contact with workers in many area industries provide students with understanding of the families of jobs within each major work category.

5. Flexibility is the guiding philosophy of the program. In the handling of students it means simply that the individuality of the student is more important than any preconceived program. Acceptance of the student as he is, and working from that point toward growth, learning and resulting change are essential. It is seldom easy to accept and understand a kid with an awful haircut, tight Levis and suede boots, but unless this acceptance is genuine, and rapport is established, learning and change can't even begin. Such acceptance may bring a feeling of personal worth after years of rejection and failure. It often takes infinite patience, because results may not come in a few days or months or even years.

Let me give you a few examples of how we try to solve individual problems and motivate potential drop-outs to continue their schooling. We have a sixteen year-old boy in our ninth-grade vocational class, whose school experiences have been negative since primary years. Having reached a level where yearly assignment to the next grade is no longer the solution for his continued academic failure, he has changed from unobtrusive avoidance to open antagonism. He lives in a solitary world, ridiculed by his peers, longing for status and respect. His one interest is motorcycles. In an effort to hold the boy in school, and to build something on this one interest, we have arranged for him to be included part-time in the automotive unit and have the challenge of developing a cycle repair shop.

Because of the inter-action of counselors, staff and student, we see an almost miraculous change in the boy's attitudes toward school, adults, and himself.

Another student, now a senior, came into our program last year,

lacking initiative or purpose. Work in the Automotive unit was the key to change for him, and through the coordinated efforts of his academic teachers and the automotive instructor, he has realized the need for a good basic education to excel as a person and in his trade. He has been asked to represent our program on a panel of students at a coming district principals' meeting, and it is possible that he may win one of our scholarships for further training.

Flexibility in curriculum planning means a break from the rigid structuring and accepted course requirements. Since our point of departure and our goal is the student himself, we must search approaches which are interesting, varied, motivating and which reflect the "here-and-now". Such methods provide welcome freedom for the teacher with imagination and ingenuity, but problems of insecurity arise for the teacher dependent upon the conventional, structured approach. Few publishers furnish the materials we need. One of our most fortunate assets is a faculty which was stimulated by a need for change, willing to break away from the safety of established patterns, and to start from scratch.

Our English courses bombard the students with experiences which stimulate word flow, both oral and written. The inability to communicate effectively with other people is a basic weakness in the students with whom we are working. Although they are known to have average ability, they function below this level in reading, writing and verbal skills, and show little motivation for learning. Every effort is made to avoid pointing out "wrong" language use at first, to encourage free flow of words and openness of expression.

Literature is made important as a source of enjoyment, as a means

of emphasizing human qualities, of understanding the differences of groups of people shown in dialects and customs.

The most popular and effective technique in all grades is the student "log". This is a daily journal kept by each student to report on the activities in each day's English class, and comments on his opinions. The log is confidential, is turned into the teacher once a week, and returned the next day. It is not graded, but teacher comments are honest and positive and encourage the student to "Keep talking". Openness and fluency are more important here than correctness of spelling and usage. Acceptance of the individual, understanding, and substituting satisfaction and success for the threat of academic failure, are the results of this technique.

Speech is encouraged through the Friday meeting which is led by a student toastmaster who introduces a grievance chairman, who presents student complaints or suggestions.

6. In some cases, because we cannot provide school laboratory training for every skill, students are placed in cooperative work training with an employer in the community. This work, scheduled as part of the school day, earns regular school credit. An experienced coordinator on our staff works closely with the employer and student, and their combined evaluation of his performance appears on his school progress report. We have discovered that this realistic experience, and the strong influence of employer-guidance, give students renewed respect for the contribution the school makes to their future success.

Courses in sociology, career psychology and family living help students to understand themselves and their relationships to others in

a wholesome and mature way. We try to provide a smooth transition to the adult responsibility which many of the students assume upon graduation.

7. The ideal student-teacher ratio (approximately 10-1) has permitted a much closer inter-action between staff and students. After a year, these young people realize that we do care about them, and enjoy working with them. We won't hit 100% with students or staff, but we're aiming high. Smaller class size makes individual attention a daily occurrence.

An added provision for working individually with about fifty of the students with lowest academic performance is supplied through our Title 1 Tutorial Project. Seven certified people, not on our regular teaching staff, work with single students or small groups on math and language skills.

This is an expensive program ($500 for C.P.) ($800/st. in vocational program), but this is the final education for most of these students and the additional cost is justified.

8. Grades (often consistently poor ones) smother any positive effort by an unmotivated student. Numerical or letter grades have been eliminated in the Vocational Program. Emphasis has been shifted from "What did this student produce?" to "What change or improvement has taken place in attitudes or work habits?". A student rarely fails if he is working up to his ability. He is compared only to himself.

9. To encourage closer communication between home and school, parents of all vocational students are scheduled for conferences with teachers after the first progress reports go home, and again in the spring. Teachers meet in the school library, easily available to the parents, dur-

ing a full day plus an afternoon and evening. Last year's sixty-five percent attendance has been increased to over seventy percent this year by a personal call in addition to the appointment letters. Many of the parents concerned had never made a previous teacher contact. I talked with every one of the parents at the conferences and the parent reaction to the program and to our evident interest in their sons or daughters is completely positive.

Frank expression of student, teacher, parent and community opinion has been continually sought by means of three advisory committees: Professional, Business, and Student; and wherever feasible, suggested changes have been incorporated.

10. Individual counseling in our program extends far beyond the guidance office, involving every member of the staff who comes in contact with the student. The enviable student-teacher ratio which exists in the Hudson system as a whole, and particularly in our vocational program, enables us to spend time with individual students outside the classroom. In many cases, the teacher, the job coordinator, and the supervisor are able to establish rapport with a student more readily than a guidnace counselor. The teacher who can know the student as he is, understand his present values, attitudes, and the background which defines his frame of reference, can accept and work from this point toward growth and change. The job coordinator and supervisor working with the student in the dual capacity of the school and work environments can help build the necessary bridge between the two areas. Close interdepartmental communication through frequent meetings provides immediate attention to student needs. Anecdotal notes accumulated at each biweekly staff meeting are turned into casual

remarks of praise to student, parent or counselor, to reinforce the feeling of success so vital to a student's motivation.

Home visitations have been carefully planned as part of our guidance approach. The problem-centered approach in parent-school relations is being replaced by a common interest in future plans for the young people. We still have parents who come to the Parent-Teacher conferences with the idea that they need only talk to the teachers with whom Johnny is having problems. But as teachers are increasing personal notes of praise on the progress report cards, parents are responding to this positive approach by more active involvement in the lives of their children.

11. No program justifies itself without some plan for evaluation, and this should be an integral part of the original program development.

It is our hope to research several areas:

a. Can the drop-out rate be reduced by providing a more interesting curriculum?

b. Can we change attitudes toward school and create better self-image for the students?

c. Can we "sell" such a program to a highly college-oriented community?

d. Can we motivate "potential" students toward more training?

12. Preliminary results of evaluation:

a. The drop-out rate is markedly lower. In 1964-65, twenty students dropped out of school. Last year, only two left for reasons other than transfer or extended illness.

b. Student interest and participation have increased.

c. Registration for vocational courses for the current year

was higher than last year.

d. Teachers report improvement in class performance of many students who were completely disinterested in school.

e. Because of the closer communication between student, parent, teacher and counselors, there is a trend toward more realistic career choice.

f. There has been enthusiastic acceptance of the vocational program in a highly college-oriented community.

g. Nine of fifteen locally awarded scholarships were given to vocational students last year.

There are no short-cuts to a good program, and we cannot do a first-rate job alone. Education for all in the true sense of the term means cooperative effort and financial support of every level of government, and the involvement of everyone concerned with young people. Only when professional educators at all levels can sit down and find means of approach, as we are doirg this week, can we find solutions to our common problem: equipping tomorrow's citizens to meet tomorrow's world.

ESTABLISHING OBJECTIVES AND DEVELOPING PROCEDURES FOR DEVELOPMENTAL, PILOT AND INNOVATIVE PROGRAMS

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Situation

A. Generalized Figures on School Dropout Obtained from the Division of Vocational and Technical Education, U. S. Office of Education:

1957-58	10 students	5th grade
1961-62	9.1 "	9th grade
1963-64	8.1 "	11th grade
1964-65	7.1 "	Will graduate from high chool
	3.5 "	Will enter college
1969	1.9 "	Will graduate from college

Implications of these figures:

B. Changing Manpower Needs:

Grant Venn says,

"The impact of automation on the labor market has been profound. Automatic elevators have recently displaced 40,000 elevator operators in New York City alone. New equipment in the Census Bureau enabled 50 statisticians to do the work in 1960 that required 4000 such people in 1956. The check writing staff in the Treasury Department has been reduced from 400 people to four. The airline flight engineer and the railroad firemen may soon disappear completely. Thirty thousand packing house workers have been automated out of their jobs in the past few years. Enormous machines have helped reduce employment in the coal fields from 415,000 in 1950 to 136,000 in 1962. While construction work has

leaped 32 percent since 1956, construction jobs have shown a 24 percent decline."

Ralph Bellman, a computer expert for the Rand Corporation, says, "Industrial automation has reached the point of no return. The scientific knowledge to automate American industry almost completely is already available and is certain to be used. Banks could cut their staffs in half easily by further automation; the steel and automative industries could increase their use of automation a hundredfold. Lower and middle management as well as production workers will be displaced for there will be no need for decision making at that level. Unemployment resulting from automation would be greater right now except that many industries are holding back--at a sacrifice to their profits to avoid increasing the severity of the problem. Self-restraint on the part of industries cannot continue indefinitely. Automation itself will produce few jobs. Two percent of the population will in the discernible future be able to produce all the goods needed to feed, clothe, and run our society."

C. Other Problems.

1. World, national, regional manpower needs must be considered as well as local needs.
2. Average worker changes jobs five or six times, but most employers still require some specific job competence for employment.

3. Knowledge and skills for occupations are in the process of continuing and accelerating change.
4. Fewer and fewer job opportunities for less capable.
5. Image or prestige of vocational education, including the separation of occupational education, general education and academic education.

Objectives

What are the objectives and what should be the objectives of pilot programs?

Pilot or Developmental Programs--A Definition

We had better attempt to coordinate our thinking regarding what we mean by pilot or developmental programs. To me, a pilot or developmental program is a program designed to try-out, further develop, and refine, on a small scale, something new or different. It is an exploratory program. It is a program to develop or refine ideas and methods that have not yet been crystalized to the point where they are ready, in most instances, for inclusion in rigidly controlled experimental studies or ready for presentation to schools and teachers as recommended methods or programs.

Pilot or developmental centers should not be considered the same as demonstration centers. In Illinois this has been one of our most perplexing problems. As soon as a program is designated as a pilot program, the personnel in the school and others consider the program

being tried a demonstration program. This is rather embarrassing, especially when some of the things tried out are not successful. Incidentally, if you do establish bona fide pilot or developmental centers some or many of the ideas tried will not be entirely successful. This should not discourage you. If you have all the answers, why bother to establish pilot or developmental centers? It may also be noted that it is often as important to find out what will not work and why it will not work, as it is to find out what will work. Often the catalyst for discovering how to do a task successfully is discovering what will not work and why. Then you have a firmer foundation for developing workable procedures.

Pilot programs may and often should lead to demonstration centers, but they should not start out as demonstration centers. Pilot programs may also lead to rigidly controlled evaluation projects, but often the program being tried is too nebulous, not fully defined, to permit sophisticated experimental design procedures.

The questions and suggestions that will be offered will, therefore, not be directed to the persons in this group who are one hundred percent experimental design-oriented. They will be directed to all who want to think and investigate through pilot programs. They will be directed to the persons who want to develop successful materials and procedures for implementing the mandates in the Vocational Education Act of 1963. However, these questions and suggestions may also, I hope, be of value to those of you who desire to organize rigidly controlled experimental programs.

Why have pilot programs?

Pilot centers will help develop and refine answers regarding the direction and the procedures to be followed in the "new look" in vocational education. If you have the answers, know what should be done and how it should be done, do not bother with pilot programs. They will be a waste of time and a disappointment to you. The first step in organizing pilot programs should probably be a "long" look at why you want to establish pilot programs.

Pilot programs to chart future directions are advantageous because:

1. You are usually permitted to do things, try out ideas, that would not be tolerated if they were not a part of a pilot or experimental program. They often would not be tolerated by either the State Department of Education or by the local school.

If tried and found successful, the objectors usually fade away and quickly find some way to justify and even legalize the procedures tried in the pilot program.

If the procedures tried are not successful, the school teachers, and state can "save face" because, after all, they were a part of pilot or experimental programs. If it was certain that innovations were valid, it would not have been necessary to try them out in pilot or experimental programs.

2. Often more time or money are available for pilot or developmental programs than for so-called "permanent changes."

3. Peers, fellow teachers and administrators, are often less critical of ideas being tried if public relations for pilot programs are handled properly than they are of regular or permanent changes.

4. Pilot or experimental programs often give status to changes desired. It fosters a climate for future acceptance of permanent change.

5. Pilot programs give a community and state an opportunity to get accustomed to change and prepare the populace for change. It prepares the populace for change because new ideas and procedures are viewed as tentative and not permanent. They still have the opportunity to veto the changes being tried.

6. Pilot or experimental programs are excellent public relation devices.

7. Official pilot or experimental programs serve notice, however, that a state or school system is "on the move" in vocational education.

8. Pilot programs encourage other schools in a state or area to try innovations or pilot programs.

PROCEDURES FOR ORGANIZATION AND CONDUCT OF PILOT PROGRAMS

Steps

1. What is the purpose of the pilot program?

It is impossible to try-out everything at once or in a certain pilot program or set of pilot programs. An imperative and essential

task is the defining and limiting of the purpose of pilot programs. Results are often confounded by attempting to try-out and develop too many things in a program.

2. What information is desired from a pilot center?

It is important to determine what information is desired and potentially available from a pilot program or set of programs. It is not enough to decide on the purpose of a program. It is essential that much thought be given to types of evidence that might be collected that would be related to the purpose of the program.

3. What kind and type of schools and teachers will be used for pilot programs?

There is always the temptation to select the best schools and best teachers as pilot programs. In these schools and with these teachers most any "half-baked" idea will be successful. I believe that for many developmental programs that it might be better to select typical schools with typical teachers as pilot centers. When Ford Motor Company officials try-out a new pilot automobile prior to its manufacture for general distribution, they do not select only ideal conditions for its try-out. The type and kind of school and teachers to use probably depend somewhat on the purpose of the pilot center and on the degree of development of the idea being tried. At least, consider the advisability of selecting typical schools with typical teachers when developing programs.

4. How will the pilot programs be selected?

After you decide on the type and kind of pilot programs to develop, you still have the task of selecting the centers. Should you go to schools and teachers and ask them to develop a pilot program or should you encourage attendance centers and teachers to request that they be permitted to conduct pilot programs? If you, instead, encourage teachers to request that they be permitted to conduct pilot programs, will you obtain the kind and type of situation desired? Perhaps some compromise between these two procedures may be most desirable.

5. How many programs?

It is possible to obtain too many pilot programs. Remember that if pilot programs are to be of much value, their efforts must be evaluated carefully, much data must be collected, and this requires considerable time. We had four pilot programs in Illinois in 1964-65 and they kept us busy.

6. What special conditions are you going to demand?

In establishing pilot programs there is always the tendency to want to demand special conditions such as additional teacher time, remodeled facilities, and budget. Certain special conditions are often necessary, but it is easy to insist on conditions that make it impossible to generalize findings to the universe.

7. How will schools and teachers be helped to identify with the project?

Schools, and their teachers need to identify with a project if they are to serve effectively in the try-out of new ideas and materials. We attempted to promote identification with our Illinois Curriculum Research Project by asking schools to submit proposals for permission to conduct pilot programs. Interested schools were given an outline of the objectives of the project and were asked to submit proposals in which they presented the following:

A. Describe what you propose to do. Indicate the present situation and what changes are planned.

B. Describe why you desire to do what you have proposed, considering the specific characteristics of your community.

C. Indicate what you hope to accomplish.

D. Describe how you plan to conduct the program proposed. Indicate (1) plans for supervised agriculture experience programs; (2) time plan for classes; (3) enrollment requirements; (4) teacher time to be provided; (5) outline of content of courses, including course objectives; (6) follow-up and placement plans; (7) data to be supplied evaluators prior, during, and after pilot program.

We are not presenting this proposal format as the only way of promoting identification with a project, but it was, in our opinion, a worthwhile procedure.

8. How much advanced planning is necessary?

More advance planning is necessary than teachers, school administrators, supervisors and teacher educators are often willing to allocate. Teachers who intend to conduct pilot programs will need to plan diligently all summer if they are going to start programs in September. Optimally, schools and teachers should have a year for advance planning for a new program. Some very interesting stories could be told about situations that have developed in pilot programs because of inadequate advance planning. It will be the responsibility of supervisors and teacher educators to help teachers make adequate advance plans this summer if they are to be prepared adequately to commence a pilot program in September.

Questions and Suggestions Relating to Conduct of Pilot Programs

At least three critical questions should be considered in advance relating to the conduct of pilot programs.

1. How much permissiveness will prevail?

   As stated earlier, pilot programs are exploratory programs. Teachers in pilot schools must feel free to modify and refine materials and methods as they proceed. They cannot be put in a "straight jacket," but they appreciate a well-defined framework in which to operate. Supervisors and teacher educators involved with pilot programs should decide in advance how to promote a permissive atmosphere in the conduct of pilot programs, and they should refrain from exhibiting their natural tendencies to dictate regarding the details of operation.

2. What kind of supervision will be provided?

Teachers and administrators in pilot programs welcome and want supervision. They do not want excessive supervision, however, and they do not welcome dictatorial procedures. In the Syracuse project for the culturally disadvantaged, schools are provided with instructional analysts who work with the teachers involved. An instructional analyst must have certain competencies which many teacher educators and supervisors do not now possess.

3. What records must schools and teachers keep?

Teachers in pilot schools need considerable assistance and encouragement in the keeping of adequate records for a pilot program.

In summary, regarding the organization and conduct of pilot programs, our experiences indicate that the following are very important:

1. Involve others in planning. Use advisory councils, school administrators, counselors and others. Obtain assistance of knowledgeable persons who can represent the whole state.
2. Assay the situation. What are the needs?
3. Determine and put in writing objectives and sub-objectives.
4. Limit the number of variables to investigate at any one place or time. Delimit your study.
5. Obtain support and assistance of others.
6. Explain pilot program completely to all involved before starting. Continue to explain objectives and procedures of pilot program to all involved continuously as program operates.

7. Emphasize that pilot or experimental programs are not demonstration programs.
8. Plan details of each pilot or experimental program as far in advance as possible.
9. Obtain if possible, outside, impartial data collectors. Teachers do not have the time or will not take the time to collect adequate data and keep adequate records.
10. Evaluate, involving others, frequently.
11. Select ideas and procedures that are successful and discard or revise ideas and procedures that are not successful.
12. Demonstrate successful ideas and procedures in demonstration centers.

POSSIBLE PILOT PROGRAMS

1. We need pilot programs to determine what we can do best and what help we can get from others, or in other words, what they can do better than we can.
2. Through pilot programs we need to learn where the special talents of present and future vocational teachers can best be used. There are many tasks common to all occupational education that teachers of agriculture, for example, are better qualified to do than any other vocational teacher.
3. We need pilot programs for preparing workers for clusters of jobs which promise rapid growth such as:
   a. Health services

b. Landscape and grounds services

c. Public and social welfare services

d. Office services

e. Outdoor recreation services

f. Technical services

Engineering

Agriculture

Computer

g. Home economics services

h. Marketing services

For example, rough estimates by economists set total employment in outdoor recreation in rural America at about 635,000. Non-urban recreation activities are expected to increase by 62 percent between 1960-1973. Thus nearly 400,000 persons will be needed to fill the new jobs created by increased demand.

4. We need pilot programs on how to coordinate the work of all vocational teachers and other teachers to make certain that all programs and courses include not only the development of certain basic occupational skills but also the development of abilities needed in all types of work.

5. We need pilot programs to develop pre-technical programs for engineering technicians, applied biological science technicians, and computer technicians.

6. We need pilot programs related to the improvement of the image of occupational education.

How can learning, regardless of how or where achieved, be given equivalent educational credit?

7. We need pilot programs to determine whether or not it is feasible to provide youth leaving school with both marketable abilities and preparation for further education.
8. We need pilot programs to determine the kind and type of vocational education to provide youth with limited ability and youth who are underachievers.
9. We need pilot programs to determine the extent to which we can prepare students who are qualified, not just for their first job, but for increased responsibility during their working careers.
10. We need pilot programs relating to what occupations can be clustered for educational purposes and what is common among the clusters.
11. We need pilot programs related to the teaching of positive work attitudes and the communication skills necessary for the world of work.
12. We need pilot programs relating to placement-employment arrangements. Is half-day released school time necessary?
13. We need pilot programs relating to acculturation (adapting to a new cultural setting) of youth to work in various situations. All youth entering the world of work are "newcomers" and need to be treated as newcomers.
14. We need pilot programs designed to prepare and retain

persons in local communities that will not hurt the individuals retained.

Many youth overlook occupational possibilities related to their backgrounds and related to their own communities. Often youth fail to spot the diamonds in their own backyards.

Gordon Swanson says, "Educators should not be content with preparing persons to fill jobs; they should create job opportunities." I assume that he meant that we can create job opportunities by preparing persons for jobs that do not now exist and helping these persons to develop and to obtain employment in these areas.

Think big! Do not limit your thinking to what your present staff can accomplish. Do not limit your thinking to what present funds can provide.

EVALUATION OF DEVELOPMENTAL, PILOT, AND INNOVATIVE PROGRAMS

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Suggestions Relating to Evaluation

Evaluation, if it is to be done, must be built into the conduct of pilot programs. Certain important questions must be asked and they should be answered prior to the start of any pilot program.

1. Who will be involved in evaluation?

The obvious answer is: all who are concerned or who should be concerned with the outcomes. Often, however, excessive responsibility for activities related to effective evaluation is left with the local teachers. Much responsibility, in my opinion, for these evaluation-oriented activities should be delegated to outside groups. For the pilot schools in Illinois, the University of Illinois was given definite responsibility for promoting effective evaluation of the programs being conducted.

2. How will adequate data be collected for effective evaluation?

Teachers are too busy conducting the pilot programs to collect, organize, and preserve the data needed for evaluation. They need help. If adequate data are to be collected, organized and preserved, a person other than the teacher should be assigned this responsibility. We have used graduate assistants at the University as data collectors.

3. What evaluative criteria should be used?

A book could be written relating to possible answers to this question. Perhaps a few principles relating to evaluative criteria will suffice.

A. Evaluative criteria should be identified and defined prior to start of pilot program.

B. Personnel in pilot programs should assist in identifying and defining evaluative criteria.

C. Advisory groups at both state and local levels should be used to identify and define evaluative criteria.

D. Evaluative evidence should not be limited to objective data.

E. Evaluative evidence should, to the extent possible, include data from both pilot and control groups.

4. When should programs be evaluated?

The answer to this question seems obvious. Pilot programs should be evaluated continuously. Often they are not, however.

5. When should decisions to continue, modify, or drop pilot program be made?

Decisions to modify, within the framework of the project, often need to be made daily. In Illinois, major modifications, and decisions to continue or drop programs are made each year. This is a "built-in" policy resulting from the requirement that pilot schools must submit proposals each year for continuation.

Typical Design

The design often used in a developmental, pilot and innovative project may be symbolized as follows:

X O

In this symbolized design pattern the X equals or symbolizes the treatment and the O equals or symbolizes the observation or evaluation of the treatment.

The X O design often called a "one-shot" design is not a good design. With this design the researcher has very little information on which to interpret his findings.

If apparent desirable results are obtained, he does not know whether or not the findings obtained resulted from the treatment or from other variables such as history, maturation and selection.

Any event in history could occur prior, during or with the treatment that would be more influential on the findings than the treatment. Also, an apparent finding may be caused by the maturation of the subjects instead of the treatment. In addition, the results may have been produced by an interaction between the type or kind of subjects being studied and the treatment variable. Thus history, maturation and selection may,with the X O design, so confound a pilot program that the evidence collected for evaluation purposes cannot be interpreted.

A Better Design

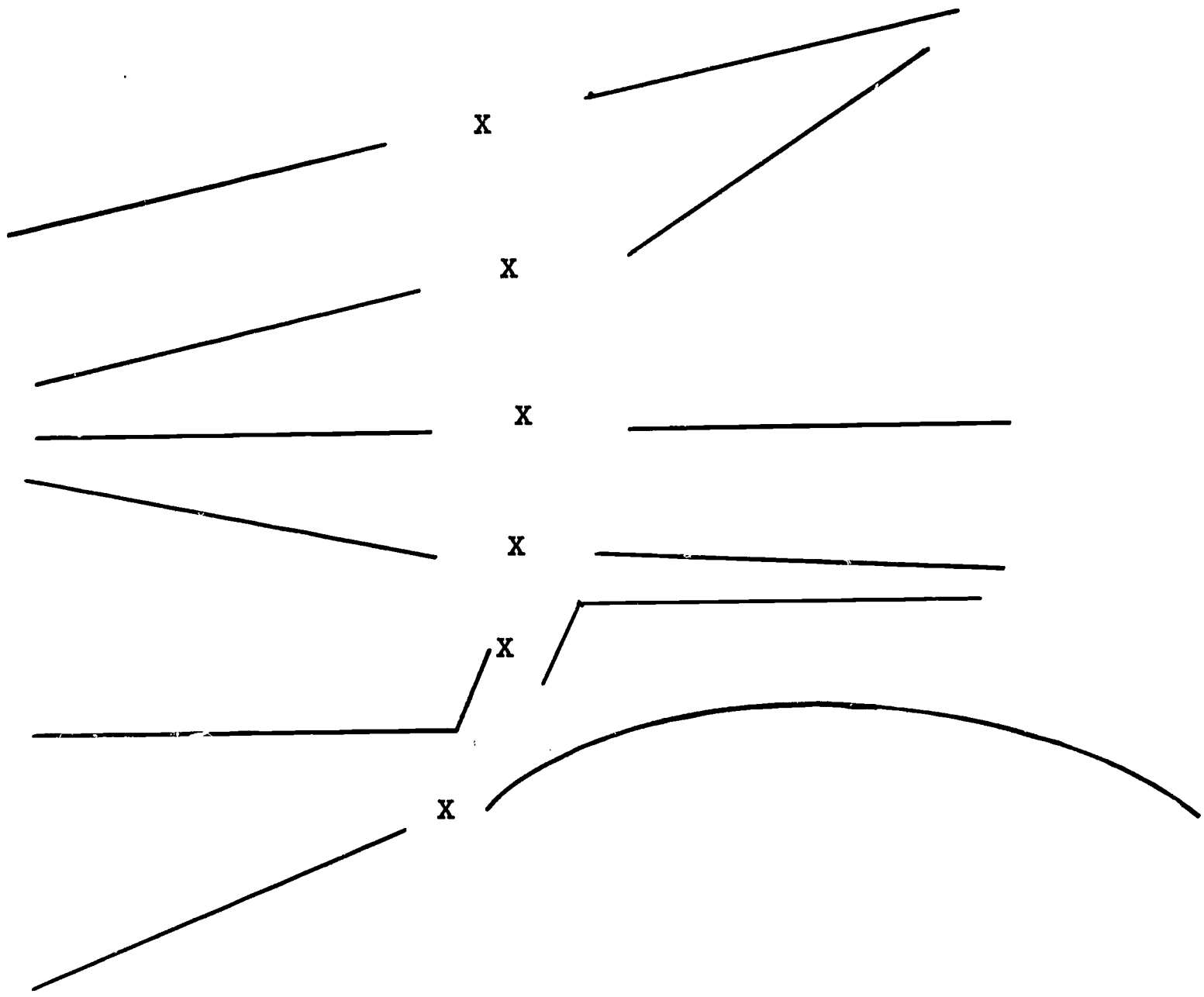
A better design to use than the "one-shot" design, and a design that is usually feasible is the time-series design.

It may be symbolized as follows:

O O O O X O O O O

The O's before and after the treatment symbolize several observations or evaluations prior to and after the treatment.

This design permits the plotting of results which may give hints regarding the possible influence of such variables as history, maturation and selection. For example, the time-series design makes it possible to at least partially interpret such findings as the following:



Still Better Design

A still better design, if feasible, is a time-series design with control groups and with the subjects being selected by random. This design may be symbolized as follows:

R O O O O X O O O O

R O O O O O O O O

The "R" symbolizes that the subjects involved in the study have been selected by random, pure chance. Random selection, if the number of subjects is sufficient, eliminates or controls for the influence of the selection variable interacting in some special way with the treatment variable. The bottom line indicates the use of a control group, a group equal to the other group, that does not receive the treatment variable being tried.

RESOURCES AVAILABLE TO PUBLIC SCHOOL PERSONNEL FOR PLANNING AND INITIATING DEVELOPMENTAL, PILOT, AND INNOVATIVE PROGRAMS THROUGH RESEARCH COORDINATING UNITS FOR VOCATIONAL-TECHNICAL EDUCATION

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Social Science Research Center

Introduction

Resources available for occupational education innovation are of at least four types: people, money, information, and agencies/entities. There, no doubt, are other categories. The RCU's would probably best be included under "agencies/entities"; however, the very nature of their structures and activities might allow them to be placed in either of the other three categories.

The term "RCU" is a brief designation of Research Coordinating Unit for Vocational-Technical Education. Forty-four states have RCU's. Twenty-three have been operating since June, 1965; the remainder started in July, 1966. The RCU's are projects which are developmental in nature; thus, they may be viewed as innovations in themselves.

The RCU's vary among the states as to their organizational structure. Some are sponsored and located in the state-level divisions or departments of vocational-technical education. Others are located at publicly supported state institutions of higher learning, universities, and colleges, in which case, they usually are jointly sponsored by the state department and the institution concerned. Staffing patterns also vary among RCU's; however, each RCU usually is characterized by some degree of research and interpretive communication competency.

The Mississippi RCU

Support for the Mississippi RCU was requested from the U. S. Office of Education by the Division of Vocational-Technical Education of the Mississippi Department of Education. Shortly after,it was approved by the U.S.O.E. In June, 1965, the RCU was located in the Social Science Research Center of Mississippi State University. Thus, it has joint sponsorship. The RCU Director, located on the Mississippi State University campus, and the Research Coordinator of the State Division in Jackson cooperatively direct the activities of the RCU. Various types of advisory councils and committees are utilized to establish guidelines for the operation of the RCU.

One of the unique features of the Mississippi RCU is the fact that it is an integral part of a dynamic research organization: the Social Science Research Center (SSRC) at Mississippi State University. The SSRC currently has four major research programs, namely: (1) Behavioral Studies in Forestry and Natural Resources Development; (2) Behavioral Studies in Community Dynamics and Regional Development; (3) Behavioral Studies in Government and Public Administration; and (4) Behavioral Studies in Occupational Education and Manpower Development. Each of these major research programs has projects in it. The Mississippi RCU is themajor project in the research program of Behavioral Studies in Occupational Education and Manpower Development. By virtue of its position in the SSRC, the RCU is able to utilize the services of a wide range of researchers who have specialties in some of the peripheral areas of vocational-technical education, such as sociology and social psychology, community stratification, community action and leadership, complex organizations, occupational sociology, sociology of

deprived groups, etc. Likewise, the position of the RCU in the SSRC is such that various contacts have been facilitated with persons in these peripheral disciplines located at other institutions in the state, region, and nation.

Aim of RCU'S

The basic aim for all RCU's is very similar to that of vocational education, which is: To prepare people for the World of Work. The concomitant problems involved in achieving this aim are numerous and extremely complex. Problems in the achievement of such an aim center around at least three kinds of skill development and understanding, namely:

1. The acquisition of occupational skills needed to earn a living.
2. The acquisition of social skills needed for living in a change-oriented, futuristic, dynamic society.
3. The acquisition of psychological skills needed for continuous personality development.

Solutions to such problems demand the most reliable data for use in planning pilot and developmental programs and projects, and for decision-making in general. Such data can only be secured and analyzed through adequately planned research processes; hence, the establishment of the state RCU's.

Purposes of RCU'S

All RCU's have developed similar purposes. These purposes have been established by each RCU in keeping with the broad objectives for RCU's set forth in the first national meeting of state RCU directors in Washington, D. C., in July, 1965. The purposes were further refined through lengthy

discussions with in-state advisory committees, agencies, organizations, individuals, and through attendance to national and regional seminars and conferences.

The Mississippi RCU adopted the following four general purposes:

1. To stimulate persons in Mississippi to conduct research in vocational and technical education and in directly related disciplines such as sociology, psychology, economics, other phases of education, and similar areas. The RCU is in a position to provide technical consultative assistance and encouragement, upon request, in planning, funding, and conducting such research. It offers assistance in formulating or drafting proposals for pilot, demonstration, evaluation, and research projects. Members of the RCU also actively participate in graduate training to develop leaders in vocational-technical education.

2. To coordinate vocational and technical education research in Mississippi in order to avoid overlap and duplication, and to achieve maximum efficiency in research efforts. The RCU provides leadership in identifying and establishing priorities for vocational and technical education research. It does this with the assistance of two advisory committees, with officials of local and state governmental agencies, and with key individuals representing the business and industrial elements of the state.

3. To implement research projects under the direct supervision of the various members of the RCU staff. A number of areas have been identified in which an urgent need for research is indicated. Each RCU staff member has at least one project under his direction.

4. To disseminate research information that has been derived within the state, and that which has been obtained from regional and national

sources. Such information comes from a multitude of sources and disciplines. Frequently the information must be interpreted for and related to local situations in the state. This purpose is being met by establishing communications with numerous agencies and officials, by developing feedback channels, and by widely circulating reports and other written information.

All of the RCU's seem to have evolved at least one commonality; their activities take place in a matrix of interpretive communication. It seems safe to say that a research utilization consensus has developed among occupational educators. This consensus is that when research activity is carried on outside the realm of widely recognized needs and reality, it seldom yields the type of information that is needed for making desirable changes in present and future vocational, technical, and/or occupational education programs. Furthermore, a companion consensus seems to be that research findings, if not communicated, disseminated, and applied, will not contribute to progressive change, adaptation, and readjustment.

These two mutually-agreed-upon concepts reveal the "two-way" street that must be kept open between the researcher on the one hand and the applicator on the other. There must exist dialogue and dialectic between the two, dialogue to maintain interaction and dialectic to achieve depth of mutual understanding of problems. The RCU's have been charged with furnishing some of the leadership that is necessary in clarifying and attaining the objective of discovering, reporting, and applying new research knowledge relating to vocational education problems. It has been recommended that each RCU assume that the activities involved in reporting, disseminating, and implementation are mandatory: emphasis must be placed on them. These acti-

vities partially compose the processes of educational change, and change takes place through an interpretive communication matrix. Educational change, like social change, is a process concept, changing others and changing itself as it goes along.

Different kinds of specialists are needed at each step of the process: research specialists, development specialists, diffusion specialists, adoption specialists, etc. The role of each should be clearly defined and their interrelationships articulated. Most of the RCU's have staff members who have competency in one or more of these specialties, and they are available to local school personnel.

The RCU's can offer specific assistance in the following:

1. Drafting proposals - patterns and types of support, application procedures, criteria for evaluation of proposals, rationale, problem definition, justification, review of literature and related research, methodology for conduct of study and treatment of data, etc.

2. Financing - sources of funds, budgeting, accounting for and administration of grant funds, etc.

3. Reporting - report format, restrictions, copies, etc.

4. Programming - organizing and implementing a pilot or innovative project, patterns for controlling its activities, evaluative patterns, etc.

5. How else might RCU's be of assistance to local school personnel?

RESOURCES AVAILABLE THROUGH THE CENTER FOR OCCUPATIONAL EDUCATION

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The Center for Research, Development, and Training in Occupational Education at North Carolina State University at Raleigh was established June 1, 1965 pursuant to the approval of a proposal submitted by the University to the U. S. Commissioner of Education under the provisions of Section 4(c) of the Vocational Education Act of 1963. This Center is the second of two Research and Development Centers to be established under the provisions of this Act, the first being the Center for Research and Leadership Development in Vocational and Technical Education at the Ohio State University. The Center is part of the Research and Development program administered by the Educational Resources Development Branch, Division of Adult and Vocational Research, Bureau of Research, Office of Education, U. S. Department of Health, Education, and Welfare.

Locally, within North Carolina State University, the proposal to establish the Center was the result of joint efforts by representatives of the Departments of Economics, Psychology, Sociology and Anthropology, and the vocationally oriented departments of the School of Education, with the support and approval of the Chancellor of the University, the Dean of the Faculty, the Dean of the Graduate School, the Administrative Dean of Research, and the Deans of the Schools of Agriculture and Life Sciences, Education, and Liberal Arts. The initial proposal was approved for a

twenty-month period ending January 31, 1967. A proposal to continue the Center for five years has been approved by the U. S. Commissioner of Education, effective February 1, 1967. The program for the continuation of the Center involves the Schools of Agriculture and Life Sciences, Education, Liberal Arts, and Physical Sciences and Applied Mathematics and the Departments of Adult Education, Agricultural Education, Economics, Experimental Statistics, Industrial and Technical Education, Occupational Information and Guidance, Politics, Psychology, and Sociology and Anthropology.

The Center has been established as an integral unit of North Carolina State University under the supervision of the Administrative Dean for Research. The Director of the Center reports to the Administrative Dean for Research. A Policy Coordinating Board, consisting of the Administrative Dean for Research as Chairman, and the Deans of the Schools of Agriculture and Life Sciences, Education, Liberal Arts, and Physical Sciences and Applied Mathematics formulates needed policies for the operation of the Center.

From its inception, the Center has been conceptualized as an interdisciplinary and multidisciplinary organization, cutting across the disciplines represented by the cooperating and participating departments. The staff of the Center includes full- and part-time personnel with the rank of assistant professor and higher, research instructors, and graduate research assistants. All professional personnel hold academic rank in one or more of the cooperating and participating departments. Every effort has been made in the organization of the Center to assure linkage

with the disciplines represented by the departments as well as with the total program of the Center.

Externally, thrust outward from North Carolina State University, the Center is establishing linkage with the Division of Vocational and Technical Education, Bureau of Adult and Vocational Education, U. S. Office of Education, with Regional Offices of the U. S. Office of Education, and with State Division of Vocational Education. A Research Coordinating Council, consisting of Directors of Research Coordinating Units in the South, representatives of Regional Educational Laboratories who have special interests or assignments in occupational education, and the Center has been organized to facilitate the coordination of joint efforts. Although the Center is primarily a research and development organization, with attention to both basic and applied research and to developmental programs, it is the basic intent of the Center that it shall serve the interests of program planning and development in occupational education, including vocational and technical education, throughout the nation, but with special reference to the southern states.

THE PROGRAM OF THE CENTER

The total program of the Center includes a research program, an evaluation program, a research development program, a research training program, and a services and conferences program.

THE RESEARCH PROGRAM

Major emphasis was placed on the research program during the initial twenty-month approval period of the Center. In recent years, the research

programs of the Departments of Economics, Psychology, and Sociology and Anthropology have moved toward concentration on a broad array of problems related to human resource development and manpower utilization. At the same time, the vocationally oriented departments at the University have been allocating an increasingly large proportion of human and financial resources to research and related activities. These research programs formed the basis of the research and development activities which were included in the original program of the Center. Six project areas were selected for emphasis during the initial program, including:

1. "Occupational Adjustments in the South."
2. "Shaping Flexible Vocational Behavior of Youth."
3. "Policies and Policy-Making in Occupational Education."
4. "Professional Personnel."
5. "The Evaluation of Occupational Education."
6. "Occupational Education in Areas of Economic Transition."

The research program in the continuation program has centered on crucial, pivotal, and fundamental problems related to the initiation, expansion, intensification, and enrichment of programs of occupational education, with special attention to the problems of providing programs for persons who are academically, socially, or otherwise handicapped. The research program is directed toward the study of the climate in which occupational education operates--to ferretting out environmental, economic, sociological, psychological, political, and administrative factors that underlie the full and complete development of programs of occupational education to maximize the development of human potential.

Five project areas have been selected to start the continuation program of the Center:

1. "Manpower Needs and Development in Occupational Education."

2. "Occupational Education in Areas in Economic Transition." (This is a continuation of the project begun during the initial period of the Center.)

3. "Vocational-Technical Training in Relation to Career Progression."

4. "The Anatomy of Decision-Making and Change in Policies, Organization, Administration of Local Programs of Occupational Education."

5. "The Effect of Adult Basic Education on Occupational Adjustments and Acculturation."

THE EVALUATION PROGRAM

The Evaluation Program of the Center will be developed along two major lines:

1. The development of models, systems, procedures, and techniques for the evaluation of developmental and related programs in occupational education.

2. The establishment of more comprehensive bases for the evaluation of programs of occupational education at national, state, and local levels.

Evaluation of developmental programs. The stimulation of developmental, experimental, and pilot programs under the provisions of Section 4(c) of the Vocational Education Act of 1963, and of exemplary and innovative programs under the provisions of Title III of the Elementary and Secondary Act of 1965, with attendant emphasis on the evaluation of the efficacy of such programs, has provided the basic impetus for the concern of the Center

on the evaluation of the effectiveness of developmental and related programs.

The Center has entered into a contractual agreement with the Brevard County Board of Public Instruction, Titusville, Florida, to conduct the evaluation phase of a project entitled "An Experimental Design for a Multi-Cultural Nongraded Area Vocational High School Associated with a Community College." The sub-contract involves the development of strategies, models and instruments to evaluate the effectiveness of the program in concert with the conduct of the project.

The Center has incorporated a project entitled "An Evaluation of a Pilot Project Entitled: Concerted Services in Training and Education in Rural Areas" in the continuation program. The pilot project is being sponsored jointly by the U. S. Departments of Agriculture; Health, Education, and Welfare; and Labor. It is being conducted in three counties--one in Arkansas, one in Minnesota, and one in New Mexico.

Evaluation of programs of occupational education. During the second year of the continuation program, the Center purports to institute two projects dealing with the evaluation of occupational education:

1. "An Integrated Multidisciplinary Approach to Assessing the Products of Occupational Education."

2. "Development of Criteria and Procedures for the Evaluation of Public Occupational Education."

The construction of achievement measures in occupational education. In addition to the two major areas of evaluation, the Center is cooperating closely with a project underway at North Carolina State University entitled "The Development of Achievement Measures in Trade and Technical Education."

There is interest in extending the basic framework developed in this project to the development of achievement measures in other fields of vocational and technical education.

THE RESEARCH DEVELOPMENT PROGRAM

The Research Development Program is being instituted in the continuation program of the Center pursuant to the commitment of the Center in the original proposal to provide leadership in the development of research and related activity not only in the South but throughout the nation. Research development is defined to include:

1. The identification and delineation of problem areas in occupational education toward which research and related activity effort should be directed, and the development of adequate plans or designs for the conduct of such activity.

2. The review of researches completed or underway, the findings of which may be introduced into operational programs of occupational education.

3. The provision of consultation services to assist persons in developing programs of research and related activity.

The Center plans to conduct a continual study of the crucial and pivotal problems in occupational education at the cutting edge of progress in occupational education, in cooperation with program planning personnel and researchers in occupational education and allied fields. Seminars and task forces will be organized to attack these problems, and, where advisable, position papers will be commissioned for use in these emerging developments. The products will be used in the continuation program of the Center, in projects to be developed jointly with the Center and other institutions and

agencies, by consortiums established through task forces, and by individuals who wish to develop projects to which the resources of the Center may contribute. The facilities of the central offices of the Center include a research library and workroom which may be utilized by persons who seek assistance in developing research and related activity. The staff of the Research Development Program will include a specialist in pilot and developmental programs, a specialist in tests and measurements, a specialist in inferential statistics and research design, and a specialist in sampling statistics and survey design. Other members of the Center staff will be available for consultation on the development of projects.

THE RESEARCH TRAINING PROGRAM

A doctorate in occupational education has been established at North Carolina State University, which will provide the opportunity for persons to prepare for research positions in occupational education.

The professional members of the Center staff will conduct seminars in research in occupational education for the participants in this program. The research and other programs of the Center will provide an opportunity for practical experience in research, it being anticipated that the graduate research assistant and research instructor positions on the Center staff will be filled by persons who are pursuing research training programs in one of the cooperating and participating Departments at the doctor's level. In addition, since all members of the professional staff of the Center hold academic rank in one or more of the Departments of the University, and since a relatively large number of appointments to the Center staff are joint appointments with the members having part-time instructional assign-

ments, maximum coordination between the program of the Center and the research training program is assured.

THE SERVICES AND CONFERENCES PROGRAM

The Services and Conferences Program of the Center has been established to facilitate the coordination of the program of the Center with individuals and other agencies interested in research, developmental, and evaluation programs. In addition, this program will be responsible for the dissemination of the products of research and related activities of the Center. Consultation assistance from the Center may be arranged through the Coordinator of Services and Conferences of the Center.

The Services and Conferences Program of the Center includes three types of conferences:

1. Seminars. As problems are identified through the Research Development Program of the Center, or through the Research Coordinating Council, seminars will be organized to study the problems in depth. One or more members of the seminars may be requested to prepare position papers to which the members of the seminars may react. Seminar members will consist of consultants to the Center who will provide advice and consultation regarding the significance and feasibility of the project being considered.

2. Task Forces. Where problems are identified that cut across two or more states and several vocational-technical services and/or related disciplines, and, likewise, where personnel are identified who are interested in developing a joint research or developmental program, task forces will be convened under the auspices of the Center to explore and develop the identified problems. The work of the task forces may lead to the organization of seminars to study the problems in depth. To a large extent, it

is anticipated that the task forces will emerge from the deliberations of the Research Coordinating Council. Projects emanating from the task forces may be initiated for funding through one of the institutions represented on the task force, for and on behalf of the other institutions. Subcontractual arrangements subsequently would be worked out with the other institutions represented on the task force. The task force approach will provide for the pooling of resources of the cooperating institutions and the Center, and for the development of broad projects which impact maximally on a large geographical area.

Conferences. Dissemination conferences will be organized as the need arises to disseminate the products of research of the Center.

In addition to the seminars, task forces, and conferences, the Center will organize workshops and training institutes, based on the identification of specific needs and problems.

DISSEMINATION

The products of the Center will be disseminated primarily through the Education Research Information Center. A series of publications has been established through which the products of the Center will be disseminated.

RESOURCES AVAILABLE TO LOCAL SCHOOL PERSONNEL FOR PLANNING AND INITIATING INNOVATIVE PROGRAMS IN OCCUPATIONAL EDUCATION

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HIGHLIGHTS OF PRESENTATION

The major purpose of this presentation was to familiarize seminar participants with the resources and assistance that are available through the Regional U. S. Offices of Education. The major points of interest in the presentation are contained in the following statements.

1. Through the Bureau of Research, a special provision for Small Project Research has been established to extend opportunities for participation in systematic educational improvement to a greater number of individuals and institutions. A percentage of the Bureau of Research funds have been earmarked to support educational research projects in which the U. S. Office of Education will invest $10,000 or less.

2. Beginning in the summer of 1966, the administrative responsibility for Small Project Research was decentralized to the Office of Education's Regional Offices, where small project proposals will be received and processed. This decentralization provides equitable geographic distribution of proposed activities in terms of regional needs and other regional educational improvement efforts.

3. The purpose of this program is to be more responsive to the regional needs of the educational community by:

a. Providing an opportunity for small projects to receive prompt consideration.

b. Encouraging small colleges and other institutions to undertake research programs to help their personnel gain experience in research and related activities.

c. Supporting significant, small-scale educational research projects by doctoral and post-doctoral students and fellows, particularly those in developing institutions.

4. Currently the decentralization of the Small Projects Research program is only partially achieved. Only two regional offices are staffed well enough to receive and consider proposals. These are the Atlanta and the Chicago offices. However, the Bureau of Research is moving as rapidly as possible to establish the program in the remaining seven regional offices. Projects outside the Atlanta and Chicago regions should be submitted to the Bureau of Research in the U. S. Office in Washington.

5. Each region will have a research advisor to handle the Small Projects Research programs. He will receive and process proposals. In addition, he will assist (as time is available) individuals in the development of small project proposals.

6. It was noted that this program provided a real opportunity for local school units to develop small innovative projects in occupational education which could be supported by Small Projects Research.

RESOURCES AVAILABLE TO PUBLIC SCHOOL PERSONNEL FOR INITIATING INNOVATIVE PROGRAMS IN OCCUPATIONAL EDUCATION THROUGH THE REGIONAL EDUCATION LABORATORIES

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HIGHLIGHTS OF PRESENTATION

The major purpose of this presentation was to explain the mission of the national program of regional education laboratories and how they might assist in the development and initiation of innovative programs in occupational education. A secondary purpose was to explain the program of the Southeastern Education Laboratory and explore ways in which it could assist occupational educators in planning and initiating pilot, developmental and innovative programs.

1. The National Program of Regional Education Laboratories: The regional laboratories are not laboratories in the usual sense of the word. Rather than being a single building or place equipped to house experimental study, these laboratories are associations of people with varied talents and a common concern joined together in a new institutional relationship. Drawing membership and affiliations from several states, each laboratory is organized to study and attack educational problems. Hence, the place in which the work of these laboratories will be conducted is the region itself--its schools, its universities, its State Departments of Education, and its communities. Although the laboratory work is decentralized, each laboratory will concentrate its efforts on one or two major educational problems, thus providing focus and coordination among

the laboratory's various activities.

2. Two Major Premises Underlie the Regional Education Laboratory Concept: First, that educational research, development, and dissemination must proceed within the framework of a new kind of partnership if the results of these activities are ultimately to effect change within the Nation's classrooms. And, since the talents and responsibilities for educational research and classroom implementation span a wide variety of institutions and individuals, the partnership should be composed of individuals from many institutional settings and disciplines. Representation and support have come from colleges and universities, teacher training institutions, local schools, local boards of education, state departments of education, and other groups--business, industrial, labor, cultural and civic--with a commitment to, and a stake in educational quality. The second premise basic to the laboratory concept is that the translation of research findings into programs and practices which can be implemented by schools and teachers is a process which can best be done through a new institution capable of beginning the research cycle and carrying it through to its logical end: implementation.

3. The Programs of the Laboratories: Like the laboratory institution itself, the programs of the laboratories will be subject to constant evaluation, renewal and revitalization. Although the laboratory concept is new, and, like all new things, must have its value proved and tested by time, the functioning laboratories are beginning to show what they can do. Beginning program activities have been launched; and plans are underway for their expansion. The hope of the laboratories and the promise of the

laboratories are the same: that as these new and developing institutions and programs reach maturity, they will represent a significant innovation, assisting the states in producing "rapid increases in educational quality on a mass scale."

4. The Establishment of the Southeastern Education Laboratory: The Southeastern Education Laboratory was founded in June, 1966, to help all educators in Georgia, Alabama, and Florida produce more and more responsible citizens for our free society through the formal education process. The goal of SEL is to provide regional leadership for educational program improvements which are particularly beneficial to educationally deprived people in the Southeast. The Laboratory is financed in part with funds from Title IV of the Elementary and Secondary Education Act of 1965 and in part with funds from other public and private sources. The immediate aim of SEL is to help all educators in schools, colleges and educational agencies of the region provide appropriate and exciting new educational experiences that will motivate continuing good growth and development of deprived children in our schools. As one of twenty new federally sponsored regional education laboratories blanketing the nation, SEL also will seek to develop some of its programs to serve broader regional and national purposes.

5. Laboratory Components: Educators are assisted in SEL activities through eight service centers conveniently located around the tri-state region. Service centers are located in Tuscaloosa and Auburn, Alabama; Athens and Atlanta, Georgia; Tallahassee, Gainesville, Tampa, and Miami,

Florida. The component service centers are the action arms of your regional education laboratory. The SEL central office ir Atlanta facilitates and coordinates the work of these centers.

6. Program Focus of the SEL: SEL is responsible for performing several major educational service functions. These are: (1) to assist in the development of region-wide programs that hold promise for the rapid elimination of educational deprivation among the region's culturally and educationally disadvantaged; (2) to provide planning assistance and program development services to appropriate operating agencies and institutions in the region, particularly in the development of new programs for the educationally disadvantaged; (3) to disseminate ideas and information that are relevant to a region-wide attack on educational deprivation; and, (4) to stimulate and support research, particularly that which is relevant to the acceleration of educational improvement for the educationally deprived.

7. Laboratory Activities Underway: The laboratory has selected eight projects within its focus which are now being developed and initiated. They are:

a. The Effects of Teacher In-Service Education on The Development of Art with Six-Year Old Culturally Deprived Children

b. A Demonstration of the Role of Sciences in the Programs of Educationally Deprived Children in Grades 7-9

c. Problem-Solving Processes of School Children and Their Amenability to Improvement

d. A Pilot Project in the Use of Video Tape Techniques and Micro-Teaching Strategies in the Supervision of Interns and Classroom Teachers

e. Special Training Program, and Follow-up In-Service Program for Junior High School Teachers of Culturally Deprived Children

f. Educational Media Conferences for Instructional Supervision--Georgia, Alabama, Florida

g. The Use of Technological Devices and Materials in Disadvantaged Classrooms

h. Minnesota Mathematics and Science Teaching Project

8. Plans for the Future: For the immediate future, SEL energy and resources will be focused upon:

a. Development and use across the region of Title I and III programs under the Elementary and Secondary Education Act of 1965.

b. Completion of a regional inventory of educational programs for deprived children and youth.

c. Development and utilization of curriculum and instructional material innovations in school classrooms across the region.

d. Development of professional educational personnel.

Three supporting services also will be undertaken simultaneously by SEL as the four activities above get underway. These services include:

a. Designing and implementing a regional educational data and evaluation system called SEED, Source of Essential Educational Data.

b. Disseminating ideas, information and materials for improvement of learning in educationally deprived classrooms.

c. Funding SEL activities.

9. Laboratory Programs in Occupational Education: At the present time, SEL has no program activities underway in occupational education. It was pointed out that when the mission of the laboratory was established, occupational education was not a priority area. Therefore, no activities directly related to occupational education have been undertaken. Through the ensuing discussion, it was agreed that more emphasis should be given to occupational education in the laboratory program, especially in developing programs for the educationally and culturally deprived. Furthermore, it was agreed that in the future development of SEL, it should work closely with occupational educators to develop ways and means of cooperating in fulfilling the mission of the respective institutions.

RESOURCES AVAILABLE TO LOCAL SCHOOL PERSONNEL FOR PLANNING AND INITIATING INNOVATIVE PROGRAMS IN OCCUPATIONAL EDUCATION THROUGH THE U.S. OFFICE OF EDUCATION IN WASHINGTON

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HIGHLIGHTS OF PRESENTATION

The purpose of this presentation was to familiarize the seminar participants with the resources and assistance that are available through the U. S. Office of Education in Washington for planning and initiating innovative programs. Major emphasis was given to resources and to assistance available through the Division of Vocational and Technical Education. The following points of interest were included in the presentation:

1. It was pointed out that the major responsibility for research and development in occupational education was held by the Division of Adult and Vocational Research in the Bureau of Research. This agency is responsible for soliciting and funding proposals. It has research specialists in the various areas of occupational education to assist persons in the various states in planning and initiating, as well as funding research proposals. It was pointed out, however, that in the review process of research proposals in occupational education received by the Bureau of Research, members of the Division of Vocational and Technical Education were asked to review them and recommend approval, disapproval or changes which are needed to strengthen them. It was indicated here that members of DVTE would be happy to assist local people

develop innovative ideas and proposals to be submitted for funding to the Bureau of Research.

2. The Small Grants Program was mentioned as another source of assistance of the U. S. Office that could be tapped by local school personnel. This program is administered by the Regional Offices of Education. This program is discussed in more detail in another presentation.

3. Mr. Crawford indicated to the group that the Division of Vocational and Technical Education was continually developing innovative ideas for possible inclusion in vocational programs throughout the nation. Members of the staff are continuously developing in-house position papers for use in program development. He indicated that most of these were not available through the U. S. Government Printing Office, but could be obtained from individual members of the staff. He pointed to these materials as little known, but an available and valuable resource for local school personnel for developing innovative ideas. He presented for group consideration some one hundred available position papers and other materials that could be obtained through his office. He encouraged the seminar members to write to him or other members of the staff for materials in the area of their innovative interests.

SUMMARY OF REACTIONS OF SEMINAR PARTICIPANTS TO PILOT AND DEVELOPMENTAL PROGRAMS

Considerable time was allowed during the seminar for small group discussion to react to presentations and to develop strategies for utilizing the content. During these sessions, numerous ideas, suggestions and questions evolved. The following statements represent the major reactions of the participants to the presentation on planning, developing, initiating and evaluating pilot and developmental programs.

1. Need for Pilot and Developmental Projects

a. Pilot and developmental projects are continually needed to improve or to change existing programs to meet the changing occupational needs of students.

b. A favorable attitude toward innovation is necessary to keep instructional programs viable.

c. Both short-range and long-range pilot programs are needed. We need guides for the future but programs with immediate applicability will enhance the pilot effort.

d. Pilot programs are needed at both state and local levels. Real changes, however, come in local programs and emphasis should be given to innovative programs at that level.

e. Pilot programs are needed which do a better job of blending work attitudes with skill development.

f. Pilot programs involving work experience are needed in the elementary schools.

g. Innovative approaches for providing occupational information to rural children are needed. Perhaps something could be provided while students are being bussed to and from school.

h. Pilot programs are needed to determine the proper sequence of vocational offerings.

i. Pilot programs are needed to explore the possibility of teaching clusters of skills, cutting across all vocational service lines.

2. Establishing Objectives

a. Pilot programs should give priority to educational aims over research aims.

b. In developing pilot programs, the establishment of objectives is essential to give direction to program activities and for evaluation.

c. General objectives should remain the same throughout a project, but specific objectives may be changed as the situation dictates.

d. The desired outcomes of the program should be well understood by everyone involved in the program.

e. The program activities should be delimited to clearly established purposes.

f. Insofar as possible, objectives should be established that can be objectively measured. However, the value of subjective observations cannot be overlooked.

3. Developing Procedures

a. Pilot programs should be based on sound research findings.

b. Pilot programs should be developed which have application to a wide variety of situations. Results of such programs could be universally utilized.

c. Ample time should be allowed for planning before initiating pilot programs.

d. Local personnel should be given time in their normal work schedule for planning pilot programs. Planning should not be an overload activity.

e. Personnel selected for pilot programs should have a special interest in the program as well as special competencies which will contribute to it. Teachers should be selected because of their competency, experience and professional attitude toward pilot programs.

f. Idea people are needed at the local level--people with time to undertake innovative projects.

g. In establishing innovative programs, we should clearly differentiate between "pilot," "developmental" and "experimental" programs.

h. We should approach innovative programs primarily from the student's standpoint rather than the teacher's. The ultimate aim is to improve learning experiences for students.

i. As far as possible, an interdisciplinary approach should be used in solving problems in vocational education.

j. The respective roles of business agencies and educational agencies should be coordinated to offer effective occupational education.

k. Effective communications are essential to the success of pilot programs. It is essential that students, teachers and community leaders be involved in the planning of such programs.

l. Teaching personnel should be rewarded for suggesting innovative ideas for improving instruction.

m. Time and funds should be made available for research and development in local programs.

n. We should look to industry as a resource for providing training in occupational education.

o. We should consider how the program will be carried on after the program is no longer funded by state or federal agencies.

4. Evaluation

a. Evaluation processes and procedures should be planned as the work of the project is planned.

b. Evaluation should be tied very closely to the objectives of the project.

c. Pilot projects are often evaluated on subjective data, but it is essential that these be supported by as much objective data as possible.

d. If subjective data are used in evaluation, a method for weighing these data should be developed.

e. It is desirable to establish control groups in all pilot programs.

f. The participants of a pilot program have an obligation to provide information about the strengths and weaknesses of the program.

g. Evaluation should take place periodically during the progress of the project.

h. Two kinds of evaluation are needed in all pilot programs. They should be evaluated internally by those involved in the project, and externally by an outside team which can look at the project more objectively.

SUMMARY OF SUGGESTED ASSISTANCE NEEDED THROUGH THE CENTER FOR OCCUPATIONAL EDUCATION, THE RESEARCH COORDINATING UNITS AND THE REGIONAL EDUCATION LABORATORIES

One of the objectives of the seminar was to explore strategies through which the Center for Occupational Education and other research organizations might provide greater assistance to local school personnel for planning and initiating innovative programs. Several presentations and a panel discussion were utilized to explore the resources available to local school units through the various research and development agencies. The seminar participants were given an opportunity to suggest ways that these agencies might provide greater assistance to them. The following statements represent the kind of assistance they believe could be provided through the Center for Occupational Education, the Research Coordinating Units, and the Regional Education Laboratories.

Assistance Needed Through the Research Coordinating Units

1. Catalog and disseminate innovative ideas (or projects) operating in the state.

2. Assist local school personnel in developing research and developmental projects.

3. Provide assistance to local school personnel in research design, statistics and evaluation.

4. Assist local people in directing proposals through proper channels for funding.

5. Disseminate in popular form the results of completed research which is appropriate to local schools.

6. Provide workshops and institutes to help local people develop research competency.

7. Provide assistance in preparing project proposals for submission to funding agencies.

8. Assist local schools in initiating innovative work programs such as part-time cooperative training programs.

9. Identify resource people who can help local schools develop and initiate innovative programs.

10. Provide leadership training for local occupational education directors.

11. Provide a catalog of funds available for supporting local innovative projects, and outline procedures for applying for such funds.

12. Coordinate pilot and developmental work throughout the state.

13. Stimulate pilot and developmental work at the local level.

14. Assist state departments and local school units in identifying research needs and lend support to research conceived at the local level.

15. Provide local people with information about the resources and services of the RCU and the name of the person to contact in making requests for assistance.

Assistance Needed Through the Regional Education Laboratories

1. More information needs to be provided about occupational programs sponsored by the Regional Education Laboratories.

2. More information is needed about the resources and services of the Regional Education Laboratories.

3. Results of innovative programs need to be disseminated.

4. A catalog of innovative ideas should be provided.

5. The Regional Education Laboratory should serve as a "sounding board" for local innovative ideas.

6. The Regional Education Laboratory should assist in the evaluation of pilot and developmental programs.

7. The Regional Education Laboratory could provide services needed in large-scale evaluation of pilot programs.

8. The Regional Education Laboratory should provide assistance in assessing local occupational education needs as a basis for program development.

9. Assistance is needed in the development of curriculum materials and instructional technology.

10. The Regional Education Laboratory should support demonstration programs that have been proved effective through pilot and development projects.

Assistance Needed Through the Center for Occupational Education

1. Provide a follow-up workshop to actually develop innovative ideas into research proposals.

2. Sponsor workshops, seminars, etc., to help train personnel to become more knowledgeable and skillful in research technology.

3. Use more seminars as catalysts for stimulating pilot and developmental programs in local school units.

4. Hold a seminar similar to this one for state department personnel.

5. Disseminate periodic information about on-going pilot and

developmental projects. Also, provide tips or guides for improving pilot efforts. Perhaps a monthly or quarterly review might be helpful.

6. Catalog and disseminate innovative ideas in occupational education.

7. Develop processes and procedures to be used by local school units to study their communities as a basis for developing new and innovative programs.

8. Assist in translating innovative ideas into operational programs.

9. Assist in proposal development and evaluation of projects having broad generalizability.

10. Provide consulting services to groups needing help in developing proposals.

11. Provide consultant help in program development, research design, and evaluation.

12. Stimulate the development of occupational education research in local programs.

13. Assist in the evaluation of current occupational education programs.

14. Assist in developing a plan for evaluating teacher training programs in occupational education.

15. Provide a reading service for evaluating research proposals.

16. Sell the interdisciplinary approach to research in occupational education.

17. Provide specific information relative to utilizing the resources and services of the Center.

18. Develop and disseminate procedures for utilizing resources of the many research agencies available to us.

19. Develop a massive program of communication in research and development.

20. Stimulate cooperative research efforts at all governmental levels (local, state, federal) in occupational education.

21. Extend the arm and project the image of the Center to a broader clientele and geographic area.

APPENDIX

P R O G R A M

Monday Morning, November 28, 1966

Arrive in Atlanta, Check in Hotel

10:00-12:00 Seminar Registration-Room 453, Regional Office, Health Education and Welfare
50 Seventh Street, N. E.

Malcolm Gaar, In Charge

Monday Afternoon, November 28, 1966

1:30 First General Session-Room 453, Regional Office, HEW
Cayce C. Scarborough, Presiding

Introductions

Welcome
Dr. Malcolm Gaar, Program Specialist, U. S. Office of Education, Atlanta
Dr. B. E. Childers, Regional Representative for the Bureau of Adult and Vocational Education, U. S. Office of Education, Atlanta

Orientation to the Seminar--Why are we here?

"What do we mean by pilot, developmental or experimental programs?"
Dr. John K. Coster, Director, Center for Occupational Education, North Carolina State University, Raleigh, North Carolina

3:00 Recess

3:30 Introduction of Speakers
Charles H. Rogers

"A Description of an Experimental and Developmental Study of a Four-Year Comprehensive Education Program, Hudson Public Schools, Hudson, Ohio"
Lloyd G. Benham
(Mrs.) Mary Pace

Questions and Discussion

5:00 Adjourn

Tuesday Morning, November 29, 1966

8:30 Second General Session-Room 453, Regional Office, HEW
Charles H. Rogers, Presiding

Explanation of Small Group Work

Introduction of Speaker
John K. Coster

Presentation, "Establishing Objectives and Developing Procedure for Developmental, Pilot, and Innovative Programs"
Dr. Lloyd Phipps, Professor, Vocational and Technical Education, College of Education, University of Illinois

Questions of Clarifications

10:00 Coffee Break

10:30 "Working Together in Research and Development"
Dr. John K. Coster

Questions and Discussion

12:30 Lunch

Tuesday Afternoon, November 29, 1966

1:30 First Session of Small Groups

Reaction to Presentation by Dr. Phipps

3:00 Recess

3:30 Third General Session-Room 453, Regional Office, HEW
Cayce C. Scarborough, Presiding

Reports of Small Group Sessions on Objectives and Procedures

Discussion

5:00 Adjourn

Wednesday Morning, November 30, 1966

8:30 Fourth General Session-Room 453, Regional Office, HEW
Charles H. Rogers, Presiding

Presentation, "Evaluation of Developmental, Pilot, and Innovative Programs"
Dr. Lloyd Phipps

10:00 Coffee Break

10:30 Second Session of Small Groups

Reaction to the Presentation by Dr. Phipps concerning Evaluation

Discussion

12:00 Luncheon-Biltmore Hotel, Room 6 Mezzanine
Malcolm Gaar, Presiding

Introduction of Speaker
Cayce C. Scarborough

Address: "The Functional Relationships of the Regional Office of Education to State Education Programs and the U. S. O. E. in Washington"
Dr. B. E. Childers, Regional Representative for the Bureau of Adult and Vocational Education, U. S. Office of Education, Atlanta

Wednesday Afternoon, November 30, 1966

2:00 Fifth General Session-Room 453, Regional Office, HEW
Cayce C. Scarborough, Presiding

Reports of Small Work Groups on Evaluation

"Summary Reaction to Small Group Reports and Further Suggestions for Participants Planning Innovative Programs and Projects."
Dr. Lloyd J. Phipps

3:15 Recess

3:30 "Resources Available to Public School Personnel for Planning and Initiating Developmental, Pilot and Innovative Programs." Part I.

Research Coordinating Units.
Dr. James E. Wall, Director, RCU, Mississippi.

Panel of RCU Directors to answer questions from group.

5:00 Adjourn

Thursday Morning, December 1, 1966

8:30 Final General Session-Room 854, Regional Office, HEW
Charles H. Rogers, Presiding

"Resources Available to Public School Personnel for Planning and Initiating Developmental, Pilot and Innovative Programs" - Part II

a. Center for Occupational Education Research-Development-Training
Dr. John K. Coster, North Carolina State University at Raleigh

b. Mr. Theodore L. Abell, Education Research Advisor, Regional Office, U. S. Office of Education, Atlanta

c. Mr. John Forbes, South Eastern Educational Laboratory, Atlanta, Georgia

d. Other Resources Available Through U. S. Office of Education
Dr. Edwin Crawford, U. S. Office of Education, Washington, D. C.

10:30 Coffee Break

11:00 Panel of Consultants-To Answer Questions from Group

"Exploration of Strategies By and Through Which the Center and Other Research Organizations Might Provide Greater Assistance to Local Public School Personnel in Planning and Initiating Innovative Projects"

Theodore L. Abell, U. S. O. E., Atlanta
John K. Coster, North Carolina State University at Raleigh
John Forbes, South Eastern Education Laboratory, Atlanta
James E. Wall, Mississippi State University
Edwin Crawford, U. S. Office of Education, Washington
Cayce Scarborough, Moderator

Business

Evaluation of Seminar-Cayce C. Scarborough

Expense Accounts-Charles H. Rogers

12:30 Adjourn

CONSOLIDATED UNIVERSITY OF NORTH CAROLINA

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NORTH CAROLINA STATE UNIVERSITY AT RALEIGH

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