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ABSTRACT

This report focuses on two programs launched by the U. S. Office of Education (USOE) for personnel development in vocational education. The two programs (section 552, Leadership Development Awards and section 553, State Systems for Personnel Development), created under part F of the Education Professions Development Act (EPDA), are examined in 11 states (California, Colorado, Connecticut, Georgia, Illinois, Minnesota, New Jersey, North Carolina, Ohio, Oklahoma, and Oregon) that received the initial section 553 grants in 1970, and in the 11 universities within these states that received the initial section 552 grants. The report examines issues in personnel development, state systems for personnel development, institutional systems for leadership development, achievements of EPDA's Part F-Section 552 and 553, implications for the future federal role in personnel development for vocational education. Content of the appendices is: EPDA's Part F, Section 553 Projects by Category (Fiscal years 1971-73); EPDA's Part F, Sections 553 and 554 Projects and Participants in the State of Oklahoma (1972-74); EPDA's Part F, Section 552 Graduate Dissertation Titles by Category. (HD)

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COMMISSIONER'S REPORT ON THE EDUCATION PROFESSIONS

Personnel Development for Vocational Education 1973-74

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
David Mathews, *Secretary*
Virginia Y. Trotter, *Assistant Secretary for Education*
Office of Education
T. H. Bell, *Commissioner*

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FOREWORD

This report on vocational education is required from the Commissioner of Education under section 503 of the Education Professions Development Act (EPDA):

> 503. (a) The Commissioner shall from time to time appraise the Nation's existing and future personnel needs in the field of education, including preschool programs, elementary and secondary education, vocational and technical education, adult education, and higher education . . . and the adequacy of the Nation's efforts to meet these needs. . . .
>
> (b) The Commissioner shall prepare and publish annually a report on the education professions, in which he shall present in detail his views on the state of the education professions and the trends which he discerns with respect to the future complexion of programs of education throughout the Nation and the needs for well-educated personnel to staff such programs. . . .

The report focuses on the EPDA's part F, under which the U.S. Office of Education (USOE) has launched its major programs for personnel development in vocational education. The report places vocational education programs in the context of the larger career education thrust and thus touches on implications for personnel development in other parts of the American educational system.

This focus seems especially timely, and the information contained in the report is designed to be helpful to Congress as it considers future legislation.

T. H. Bell

U.S. Commissioner of Education

PREFACE

This report is required by the Education Professions Development Act (EPDA) is concerned with personnel development in vocational education. It focuses on two programs created under part F of the act:

> Section 551: Leadership Development Awards (designed to develop competent leaders in vocational education and to encourage comprehensive programs at the graduate level).
>
> Section 553: State Systems for Personnel Development (designed to provide training or retraining of experienced vocational education personnel through cooperative arrangements among State boards of vocational education, local education agencies, and other institutions or private industries).

These programs were examined in the 11 States (California, Colorado, Connecticut, Georgia, Illinois, Minnesota, New Jersey, North Carolina, Ohio, Alabama, and Texas) that received the initial section 553 grants in 1971, and in the 11 universities within these States that received the initial section 551 grant.

The study objectives were to (1) identify the major issues facing personnel development for vocational education and (2) determine to what extent the EPDA's part F programs had addressed these issues. The programs were studied in the context of the larger career education thrust and thus also touched on implications for personnel development in other sectors of the American educational system.

Issues

Significant issues in the training of vocational education personnel have been identified as:

(1) Segmentation of fields within vocational education.--The background and training of vocational personnel in specific and differentiated fields inhibit the development of occupational clustering and commonalities of skills across occupations.

(2) Separation between vocational and academic educators.--Long-standing barriers of status and rigid departmental boundaries in the American educational system inhibit potentially cooperative efforts of vocational and academic personnel. An interdisciplinary approach to training is a major need.

(3) Articulation among levels of education.--The lack of articulation among elementary, secondary, and post-secondary levels of education calls for improved modes of interaction by counselors, teachers, and administrators. Major problems center on the deficiencies in the counseling function, shortage of minority-group representation, the transfer of credits, the efforts to encouage adult reentry into the educational system.

(4) Coordination among educational agencies.--Organization of State departments of vocational education into segmented fields has impeded change. Other jurisdictional problems are lack of commitment to vocational staff development by teacher-training institutions, lack of uniformity in certification requirements, and variations in the supply and demand of vocational personnel.

(5) Linkages external to the educational system.--Improved coordination with business, industry, labor, and the lay citizenry is needed to plan the appropriate type and locale (in the school, on the job, or a mixture of both) of skill training.

(6) Needs for leadership.--To meet the demands for improvement in vocational education, broad-based leadership is required. The need for minority-group leaders is critical.

Achievements

In terms of the Federal investment, the report for 1973-74 points to significant achievements under sections 552 and 553 of the EPDA's part F programs. Section 553 received 1.79 percent of the total

Federal allocations for vocational education in the 11 States, and section 553 received 1.9 percent.

EPDA's part F has acted as a catalyst for reform in vocational personnel development. The programs developed under sections 552 and 553 address many of the issues identified as most pressing and have accomplished more than was suggested in the statement of legislative purpose.

The achievements are as follows:

(1) EPDA's part F has helped State departments of vocational education, institutions of higher education, and local education agencies implement a more comprehensive approach to personnel development than earlier methods.

Section 553 enabled State departments of vocational education to experiment with more comprehensive approaches to inservice training by bringing together educators from a variety of fields to develop commonalities of skills and to further the cluster approach to training. For some of the institutions participating in section 552, such action was their first move away from providing doctorates in segmented fields toward a comprehensive effort to develop knowledge in all fields of vocational education.

(2) EPDA's part F has brought vocational and academic personnel together in planning and in training.

Inservice training provided through section 553 frequently involves interdisciplinary teams of vocational and academic educators, teachers, counselors, and administrators at the local district level. Similar combinations of teacher educators at the university preservice level have also been funded through section 553.

The leadership development programs of section 552 have provided higher visibility and image raising for vocational education at the university level. In several institutions the section 552 performance tends to increase the university's commitment to personnel development in vocational education and the disciplinary boundaries tend to become less rigid.

(3) EPDA's part F touched on the problems of articulation, primarily through cooperation by personnel at several levels in diffusing career education.

Section 553 workshops have brought together teachers, counselors, and administrators from elementary, secondary, and postsecondary levels of education.

(4) EPDA's part F improved the extent of coordination among State departments of vocational education, institutions of higher education, and local education agencies.

Although working relationships between States and institutions had been established before the introduction of EPDA's part F, such relationships have been broadened and enhanced by sections 553 and 552. The addition of a vocational education personnel development (VPD) coordinator has added strength to State departments in terms of conceptualizing and bringing about needed reform in personnel development.

(5) EPDA's part F has tended to improve relationships among education agencies, business, industry, and the community

Some success has been reported in bringing business and industry people into the schools for brief periods of time. Labor has largely been underrepresented in EPDA's part F programs, and there has been little representation of community paraprofessionals in section 553 workshops. The most significant involvement of the citizenry is found in career education diffusion efforts.

Implications for the Federal Role

In terms of congressional and U.S. Office of Education (USOE) planning for future initiatives in vocational and career education, the major issue that should be addressed is the priority to be assigned to personnel development. Career education--however defined--has little chance of survival as an enduring direction in American education without intensive development of personnel in both vocational and academic fields.

In relation to the total needs for change in personnel develop-

ment in vocational education, current reforms are miniscule. The type of experimentation fostered by EPDA's part F should be further encouraged.

States and local planners need assistance in improving systems for defining quantitative and qualitative requirements for vocational personnel. Methods for the reporting required under the Federal acts should be refined.

Positive results of efforts to effect linkages among education, business, industry, labor, and the community should be widely disseminated among States.

Meeting the needs of the handicapped, the ethnic minority groups, and women will require increased development of sensitive teaching and counseling skills. A major need is to develop ways of improving the quality of vocational education so that minority groups perceive it as a means of developing a potential for upward mobility rather than for filling lower "status" jobs.

To achieve these goals, leaders are needed whose training is broad based and who appreciate the value of the contribution of each of the vocational fields and academic disciplines to an integrated effort. If vocational leadership is to be responsive to a rapidly changing technology and societal trends, a cadre of interdisciplinary educators oriented toward problem solving is needed.

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I. INTRODUCTION

Overview

Since the enactment of the Vocational Education Act (VEA) of 1963, change in vocational education has been a continuing Federal focus but the problems in this important segment of our educational system persist. Many of the problems of vocational education, however, also exist in other areas of public education. In a review of these problems one leading educator, David Rogers, discusses two shortcomings of the educational system that are particularly relevant to vocational education.

> One such shortcoming is a narrow and misplaced elitism that puts inordinate emphasis on a four-year college degree, gears most educational resources to college-bound students, insulates academic from vocational training, and relegates students and educators in vocational-technical programs to second-class citizenship. This reflects national values and not just the biases of educators alone.
>
> Public education has also suffered from an isolation and lack of integration of school programs with the economy and the wider community, and the classroom may be increasingly irrelevant to students' developmental needs and to conditions in the wider society.[1]

Other commentators support these views. For example, the recent report of the Panel on Youth of the President's Science Advisory Committee states ". . . that the school system as now constituted offers an incomplete content for the accomplishment of many important facets of maturation." It points out that the comprehensive high school, designed to provide a "democratic melting pot," has brought about three forms of

segregation: separation of the young from the rest of society, separation of age strata within the ranks of the young, and segregation of different cultures and races within the general population. The panel recommends that the schools arrange to give young people opportunities and experiences beyond those now provided, including work and public service outside the school.[2] Reports of the National Commission on the Reform of Secondary Education[3] and the Commission on the Financing of Postsecondary Education[4] also stress the importance of occupational competence and the provision of alternative work environments. The voice of youth, heard through the National Student Lobby, has made similar requests for expanded work-related programs to "further opportunities for the alternation and integration of the work world and the academic world as the basic model for postsecondary education."[5]

Rogers argues that the most significant strategy that attempts to be responsive to such recommendations is the direction to career education:

> By far the most significant reform strategy that attempts to provide a coherent philosophy and deal with the many limitations of high schools is the career education movement. It is an attempt to change the entire educational system, from kindergarten through postsecondary education, by diagnosing the shortcomings of both vocational and academic training in the context of their mutual [sic] isolation.[6]

There is evidence of strong public support for career education activities. Recent Gallup Poll data[7] indicate that a large percentage of the American public hope their children will graduate with skills for earning a living. And according to the National Advisory Council on Vocational Education:

> In the last three years close to a third of all school districts in America have initiated career educational efforts. Over 35 State Departments of Education have appointed career education coordinators. At least 20 State Boards of Education have passed resolutions supporting career education. All this occurred without a Federal law called career education. Clearly, the career

education movement has powerful momentum. But it has been, so far, largely a State and local movement.[2]

The American Vocational Association also lends its support to career education:

> Vocational educators have a key role to play in this movement, for career education will not fulfill its promise in reforming American education unless the skill training component is expanded and strengthened. Vocational educators can also contribute materially to the development of awareness, orientation and exploratory programs for people of all ages.[2]

Along with this support, however, there have been both confusion and debate, centered primarily on the problem of defining "vocational" and "career" education. It should be made clear that career education is not simply a new name for what we now know as vocational education. In this report these two terms are used as follows:

- Vocational education:

  An established part of the American educational system that has functioned for over 50 years in the real world of students, curriculums, budgets, Federal reporting. It is the component of career education that provides skill training for a specific occupation or group of occupations, with concentration on programs at the subbaccalaureate level.

- Career education:

  A concept that includes all students at all levels of education--elementary, secondary, and postsecondary. It is an approach to educational reform that emphasizes the relationships among work, education, and culture.

Most problematic for the career education direction are the value conflicts between vocational and academic educators. Vocational educators fear a dilution of their efforts; academic educators fear the need for job skills will be seen as so immediate that liberal arts curriculums must have a lower priority. Neither need be the case. But the debates continue and are in many ways analogous to those preceding enactment of the Smith-Hughes Act in 1917.

Change in the way both vocational and academic personnel are educated appears to be a necessary strategy for effective diffusion of career education, and there is in fact, a growing awareness of the importance of staff development. For example, the American Association of Community and Junior Colleges has increasingly identified staff development as an area of prime importance; its 1973 Assembly selected as a topic "Educational Opportunity for All: New Staff for New People."[10] Oregon's State Advisory Council on Vocational Education has selected evaluation of personnel development as one of its priorities for 1974-75. The National Advisory Council on Vocational Education has also indicated that personnel development is one of its priorities for 1974-75. According to the Council's Executive Director:

> Teachers and administrators increasingly are calling on experienced vocational education teachers for help in developing curriculum and planning programs around career themes. Vocational educators also have key contributions to make in career guidance, career exploration, and coordinating academic instruction with career development. . . . To meet all these demands will, first of all, require increasing the sheer quantity of vocational education teachers. There is no question about that. However, if these new challenges are to be met, the effectiveness of vocational educators will have to be stepped up, too. . . . The techniques of instruction taught vocational education teachers today tend to be the same as they were in the 1920's, 1930's, and 1940's.[11]

To develop sound policy for assisting in improving the effectiveness of vocational education personnel requires more information than is currently available. As Rupert Evans has noted:

> We know remarkably little about the target population for vocational education professional development. . . . Clearly, we could do a better job of designing and carrying out vocational education professional development if we knew more about the characteristics and needs of vocational educators. . . . National studies of teacher supply and demand are even less satisfactory and qualitative studies of need are nonexistent.[12]

Project Baseline also found the shortage of information on vocational teacher education "quite disturbing" and recommended that systems for collecting data on vocational personnel be improved with "considerable urgency."[13]

Where is vocational education offered? From its early origins in the first Morrill Act of 1862 limited to agriculture and mechanical arts, vocational education has spread to a wide range of institutions. USOE funding now supports programs in comprehensive high schools, area vocational schools, junior and community colleges, postsecondary technical institutes, 4-year colleges, and private and proprietary schools. In 1971, the National Center for Educational Statistics (NCES) reported that almost 17,000 public secondary schools in the Nation offered some type of occupational curriculum. Approximately 16,000 of these were comprehensive high schools that had diversified programs which offered both vocational and academic subjects; almost 350 secondary schools provided full-time vocational education exclusively; and the remainder provided some combination of specialized secondary and technical vocational education.[14]

Another NCES study found that 1,750 publicly supported postsecondary schools (excluding 4-year institutions) and some 6,500 private and proprietary schools offer occupational training.[15] Little is known about the number of 4-year colleges that give occupational training, although there is a reported trend in this direction.

Who teaches? Who counsels? Who administers? What are their characteristics? Although there is a paucity of information on

vocational counselors and administrators, the 1973 data from the Division of Vocational and Technical Education (DVTE), Office of Education, show a total of 243,514 teachers in secondary, postsecondary, and adult education vocational programs.[16]

A 1972 NCES study of secondary vocational teachers revealed that 51 percent of vocational education teachers were men and 49 percent were women; more than 70 percent of all secondary vocational teachers taught trades and industry, office/business, or home economics. Three-fourths had nonteaching work experience in the area they taught.[17]

Approximately 11 percent of the total number of secondary vocational education teachers came from ethnic groups.[18] The percentage distribution by ethnic group in 1972 was as follows: Black 8.4 percent; Spanish-surnamed 1.1 percent; Oriental 1.1 percent; and native American Indian 0.01 percent.

An additional problem is seen in the state of the art in evaluation of all types of education. In terms of teacher-education evaluation, for example, he sees the lack of knowledge regarding teacher effectiveness as the largest problem:

> The recruitment, development, maintenance, and replacement of vocational and technical teachers pose all of the problems associated with staffing general education programs. Undoubtedly, the most important difficulty is that no phase of education has a reliable criterion of teacher effectiveness. Lack of this criterion is a serious deterrent to evaluation of the effectiveness of programs for staffing vocational-technical education.[19]

Rogers sees the most important evaluative need to be studies of the political and administrative context of programs, especially their organizational linkages:

> Most evaluation studies rarely treat the political and administrative context of programs, especially their organizational linkages, as forces affecting performance. And yet they may be among the most important. Indeed, such process studies of the political and organizational dynamics of implementation may tell us much more about why new programs work or not than any other method. . . . Public education is plagued by the experience of promising new programs that are poorly implemented, given the poor management of many educational bureaucracies. Until more sensitive studies are done on the process of implementation and strategies are developed to change the process, there is every reason to believe that the problems will continue.[6]

Focus of the Report

Because the issues involved in personnel development for vocational and career education appear to be of such significance and because so little is known about their nature, this report is focused on the EPDA's part F programs. The congressional intent to give high priority to the development of such personnel was shown by the addition of part F to the EPDA. Congress could have diffused personnel development through title I of the 1968 Vocational Education Act, as in the past. But it was sensitive to the advice of the 1968 Advisory Council on Vocational Education that to do so would only perpetuate the lack of attention paid to this aspect of vocational education.

Part F of the EPDA was addressed to development of the whole spectrum of vocational education personnel, not merely teachers. The 90th Congress specifically included administrators, supervisors, teacher-educators, researchers, and instructors.

- Section 552 of Part F, Leadership Development Awards, provided funds for developing competent leaders in vocational education. A second purpose was to encourage comprehensive programs in vocational education at the graduate level. In 1970, 11 institutions were selected to start 3-year doctoral programs; in 1971, 7 additional institutions were selected. In 1973, the 3-year program was reduced to a 1-year leadership program; in 1974, 10 additional institutions were chosen to continue the 1-year program.

- Section 553 of Part F, State Systems for Personnel Development, authorized grants to State boards, supplementing funds from other sources, to provide training or retraining of experienced vocational education personnel by means of cooperative arrangements among State boards of vocational education, local education agencies, and other institutions or private industries.

- Section 554, Familiarizing Teachers With New Curricular Materials, states that special consideration is to be given to training programs designed to familiarize teachers with new curricular materials in vocational education. Because of the limited funds appropriated for part F, no grants were made to the states to carry out section 554 until 1973, when 15 percent of section 553 funds were set aside for this purpose. Section 554 is therefore not a major focus of this report.

HEA's part F has been administered by a staff of four professionals now located in OE's Division of Educational Systems Development. Within general Federal guidelines, States and institutions of higher education have relative flexibility in developing programs that meet their diverse needs as well as the legislative intent. Starting in 1972, the States and institutions were encouraged to incorporate career education concepts into both sections 553 and 552 programs. The States have, in fact, had major responsibility for diffusing the career education approach.[21]

In the spring of 1974, the 11 States where institutions of higher education had received initial section 552 grants as well as grants for section 553 programs were selected as a focus for study.

Table 1 lists these States by population rank for 1970: California ranked 1st; Oregon, 31st. The 11 institutions listed include one of the

TABLE 1.--Contextual Variables in 11 Selected States

State	Rank by population (1970)	Rank of State by enrollments in vocational education (1972-73)	Institution	Total* enrollments (1972-73)
California	1	1	Univ. of Calif., Los Angeles	29,637
Colorado	30	31	Colorado State Univ.	17,427
Connecticut	24	20	Univ. of Connecticut	17,345
Georgia	15	12	Univ. of Georgia	22,598
Illinois	5	2	Univ. of Illinois	35,307
Minnesota	19	14	Univ. of Minnesota	55,858
New Jersey	8	9	Rutgers, The State Univ.	24,187
North Carolina	12	7	North Carolina State Univ.	14,532
Ohio	6	6	Ohio State Univ.	45,963
Oklahoma	27	30	Oklahoma State Univ.	19,167
Oregon	31	26	Oregon State Univ.	15,184

*Main campus.

Nation's oldest--Rutgers, established in 1776. Oklahoma State University, founded in 1891, was the last of the 11 to be established.

Since little published information is available on the part F programs, much of this report is based on information acquired through interviews with State vocational education personnel development (VEPD) coordinators, State directors of vocational education, career education coordinators, directors of leadership development programs (section 552 program directors), deans of schools of education, deans of graduate schools, faculty members, and EPDA's section 552 program students. The offices contacted were those of State departments of vocational education, State offices of public instruction, institutions of higher education, and, wherever possible, local school districts.

Content of the Report

Chapter II examines the issues involved in changing vocational personnel development in terms of segmentation of fields, separation between vocational and academic educators, articulation among levels, jurisdictional coordination, external linkages, and needs for leadership.

To set the context within a State's system for personnel development, chapter III describes projects under EPDA's part F, section 553 in the 11 States; and chapter IV describes section 552 programs. Chapter V summarizes the accomplishments of these programs. Implications for the Federal role are presented in the concluding chapter VI.

In light of the critical issues facing vocational education, it is hoped that this review of programs specifically designed to improve vocational personnel development will provide information useful for policymakers throughout the Nation.

CHAPTER I. -- NOTES

1. D. Rogers, "Vocational and Career Education: A Critique and Some New Directions," Teachers College Record, vol. 74, no. 4, p. 472 (Teachers College, Columbia University, New York, May 1973).

2. J. S. Coleman, "Youth: Transition to Adulthood," report of the Panel on Youth of the President's Science Advisory Committee, Office of Science and Technology, Executive Office of the President (University of Chicago Press, June 1973).

3. B. F. Brown, "The Reform of Secondary Education: A Report to the Public and to the Profession," report of the National Commission on the Reform of Secondary Education (McGraw-Hill Book Co., N.Y., 1973).

4. "Financing Postsecondary Education in the United States," report of the National Commission on the Financing of Postsecondary Education (National Institute of Education, Education Research Library, Washington, D.C., December 1973).

5. L. Olson, in National Student Lobby testimony presented to the House Special Subcommittee on Education.

6. Rogers, op. cit., p. 472.

7. The Gallup Polls of Attitudes Toward Education, 1969-1973, S. Elam, ed. (Phi Delta Kappa, Bloomington, Ind., 1973).

8. "A National Policy on Career Education," p. 1, 8th report of the National Advisory Council on Vocational Education (September 1974).

9. L. Burkett, "Latest Word From Washington," American Vocational Journal, vol. 49, no. 5, p. 9 (May 1974).

10. "The Assembly," American Association of Community and Junior Colleges, Washington, D.C. (1973).

11. C. Dellefield, "Professional Development: A Priority of the National Advisory Council on Vocational Education," p. 1, newsletter of the Center for Occupational Education, North Carolina State University, vol. II, no. 3 (1973, Out of print).

12. R. N. Evans, "Vocational Education: Staff Development Priorities for the 70's," a report of the National Advisory Council on Education Professions Development, Washington, D.C. (1973).

13. A. M. Lee and R. Sartin, "Learning a Living Across the Nation," p. 364, Second National Report, Project Baseline, Northern Arizona University, Flagstaff (November 1973).

14. N. A. Osso, Directory of Secondary Schools with Occupational Curriculum, Public-Nonpublic, Office of Education, National Center for Educational Statistics, Washington, D.C. (1971).

15. E. R. Kay, Directory of Post Secondary Schools With Occupational Programs, 1971, Public and Private, Office of Education, National Center for Educational Statistics, Washington, D.C. (1971).

16. "Summary Data Vocational Education, Fiscal Year 1973," p. 2, vol. I, Office of Education, Division of Vocational and Technical Education, Washington, D.C. (June 1974).

17. N. A. Osso, Characteristics of Students and Staff, 1972, Office of Education, National Center for Educational Statistics, Washington, D.C. (1973).

18. Ibid., p. 38.

19. R. N. Evans, "Staffing Vocational-Technical Programs," in Vocational Education: Today and Tomorrow, G. G. Somers and J. K. Little, eds., p. 201 (Center for Studies in Vocational and Technical Education, University of Wisconsin, 1971).

20. D. Rogers, op. cit., p. 487.

21. "Hearings Before a Subcommittee of the Committee on Appropriations," Part 5: Office of Education, House of Representatives, 93d Congress, Second Session (Washington, D.C., U.S. Govt. Printing Office, April 1974).

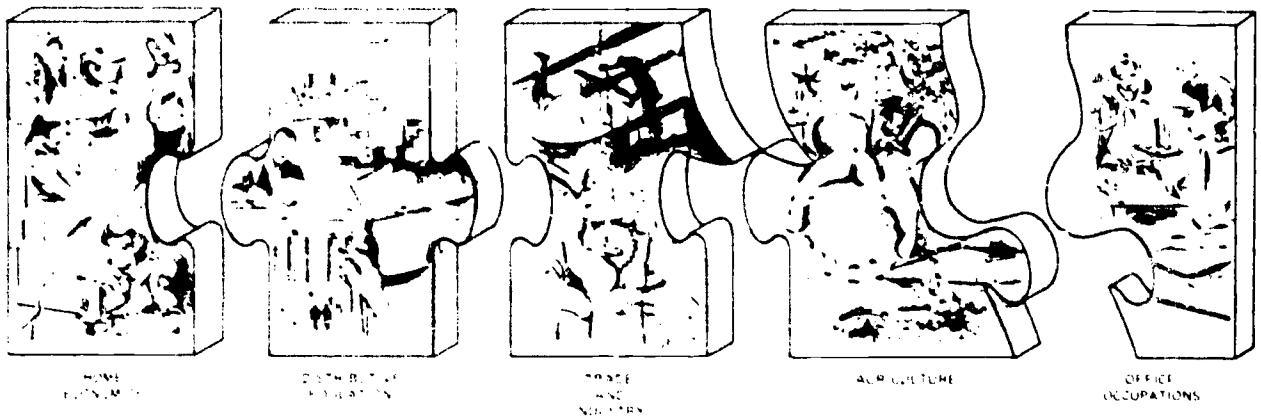
II. ISSUES IN PERSONNEL DEVELOPMENT

Across the 11 States studied, vocational education is in transition, struggling to become more adaptive to the needs of a rapidly changing technology. In the main, vocational educators view career education as an effort that, if properly implemented, will enhance their capability to meet the needs of the future. Most also view personnel development as the major avenue by which this can be accomplished, and most agree that, even without the broader context that career education implies, there is an urgent need for changing traditional approaches to vocational personnel development. Most speak of needs to become more comprehensive, to coordinate efforts, and to unify isolated fragments of the American educational system.

Any effort to understand the major issues entailed in reforming vocational personnel development must take into account their deep-rooted nature. As one study has suggested:

> Although some have seen a fundamental change in the concept of vocational education,. . .the historical continuity in the issues raised is more striking. Essentially, our approaches to vocational education continue to be dominated by the debates and structures established by 1917.[1]

Segmentation of Fields Within Vocational Education



The historical segmentation of fields within vocational education presents a formidable barrier to the types of adjustments required to meet the needs of today's and tomorrow's students. However, at present there are no agreed-on alternatives for organizing the occupational fields.

Commonalities of skills across occupations are not currently clearly defined. There are no hard and fast answers to such questions as:

- Which occupations have common skills that can be combined and taught as a cluster?
- At what point does an occupational skill become obsolete?
- Which skills are easily transferable?
- What are the new and emerging occupations for which personnel training should be provided?

A State director of vocational education put it this way:

> I think our critics are right when they talk about obsolescence of skills and I think it ties to how proud and defensive we are of what we call our content. Let's say I'm a machine shop teacher and I teach what's in my little bible, and the only way for me to improve that is to make it more and more specific and harder and harder to attain--if I have

> to then turn around and look really at what I'm teaching in that laboratory and break it down to its basic components, I am really teaching fluids, metals, metallurgy, chemistry of metals, hydraulics. If we mean that there are common units of instruction and these include fluids or metallurgy, yes, there is commonality there and yes, we'd better get to that. If, however, we're talking about common skills that lab technicians in health occupations need to know or what they must do in terms of measurement in relation to what the bricklayer does, then I'm not sure what the common units of skill instuction are."

And one vocational teacher, discussing his problem in adapting to the cluster approach, said:

> It's a big problem with clusters because nobody is that broad-based. For example, I am a construction cluster teacher in a comprehensive high school. I've been a brickmason; I've taught masonry for years. Now I've got to learn something about basic wiring, about carpentry, about painting. We've pushed very hard and its difficult to change."

As with change in other areas of education, one major inhibitor to realining fields and training personnel in new patterns appears to lie in the background and training of current vocational education personnel. Most undergraduate preparation of vocational teachers still parallels that set up under the Smith-Hughes legislation in separate fields (e.g., agriculture, home economics). Since formal training mechanisms did not exist in 1917, newly formed State boards enlisted the services of State-supported universities in developing programs of teacher training. Generally, these were not incorporated into colleges of education, but rather into the colleges teaching the particular occupations. As additional fields were added under the legislation, teacher-training needs expanded. But the general tendency persisted to assign teacher-training programs to whatever institutions or parts of an institution that specialized in the occupational skill. At the graduate level also, doctorates have traditionally been given in separate areas of specialty. Taylor

and Miller in 1971 described the system as an "independent organizational structure" with no formal coordinating mechanism.[4]

This practice has led to the following types of problems:

- Duplication of effort across departments. Even general education courses are ordinarily segregated by occupational field (e.g., The Philosophy of Education for Agriculture Teachers).
- Rivalry across fields.
- Inhibition of innovation. Courses in emerging fields are frequently not offered because they do not fit into any of the existing occupational organizational units.
- Failure of the system to produce educators familiar with the total system of vocational education and its relationships to the world of work and to academia.

Formal preservice preparation for trade and industry teachers has been rare. Most acquire their skills on the job and receive pedagogical training after they have begun to teach. Conflicting views on the wisdom of this approach are found among leaders in the field. Some tend to view this type of arrangement as most desirable in bringing relevant skills from industry; others hold that a more desirable route would be to provide formal teacher training at universities, supplemented by on-the-job skill learning.

One advantage of taking teachers from industry was their apparent lack of preconceived notions about how education should take place:

> We've got a benefit with all those nondegreed teachers because they are so much less inclined to believe that there is a way for education to take place. They haven't had four years of a method that hasn't changed in decades. Maybe we have a better chance with them; I don't know.[5]

One vocational educator who had been teaching methods courses for a period of several years noted that the best teachers from industry were those highly motivated to teach:

> Many take a big cut. If an electrician can make $15,000 at an area school, he is doing good. There are two types: The first wants to get out of the working racket and retire--they don't last because you work much harder as a teacher; the second is the person who has always wanted to be a teacher. And the second group make the very best teachers.[6]

The most frequently reported difficulty in training teachers from industry was getting them to adapt to the cluster approach:

> There are probably two bodies of knowledge that they do not have. Many don't have a sufficient grasp of the principles that underlie their own occupational fields, let alone the common career development skills that students require or the structural processes that they might use to teach that.[7]

Traditionally, vocational teacher-training institutions have tended to assume less responsibility for inservice than for preservice training. Inservice training has generally been strongest in agriculture, home economics, and office occupations. A major factor that has inhibited the development of nontraditional approaches to training is lack of incentive for university staff to participate in such programs.[8]

The same lack of incentive is found at the school or college district level. Variable certification requirements are a part of this, but also districts often have simply not been able to mount large-scale programs of inservice development. Because of tenure policies, teacher turnover is slow and districts cannot upgrade their staff until teachers voluntarily leave, generally at retirement. Some of the larger school districts do maintain staff with formal responsibility for inservice training, and these may serve smaller nearby districts as well. But Evans[9] noted that many of these programs initiated in the 1920's and 1930's have already disappeared in massive urban districts where educational budgets are particularly subject to political controversy.

Because of difficulty in implementation, the move to unify the segmented fields through preservice and inservice training has met with both

resistance and acceptance. One vocational educator expressed his concerns about moving too far in the direction of comprehensiveness:

> We have people on our staff who say 'Isn't it great that we can now find these common things?' I share this view for some of the things that are new--when we decide, for instance, that we can teach the history of the legislation to all students, or that we can teach principles of public relations. But you don't teach methods of instruction for all fields. These are not common. If you want to destroy vocational education, you assume that generality can replace specificity. I'm saying we need a stopping point. We need to have a basis for knowing when you get to that stopping point. It would be a disaster if we prepared vocational teachers and did not prepare teachers of business operations, industrial arts teachers, and others. I'm making the case for not carrying comprehensiveness to its extreme and becoming so diffuse that we lose what is essential.[10]

* * * * * * *

Separation Between Vocational and Academic Education

In addition to realigning the segmented fields of vocational education, a personnel development program suited to the 1970's must seek to break down long-standing barriers between vocational and academic educators. As noted earlier, vocational education personnel have received preservice preparation in segmented fields; elementary and secondary personnel have been trained in separate departments or even separate schools of education. Both have been yet further separated from the academicians in liberal arts and sciences. In ways reminiscent of Dewey, a noted educator claims that much of what is wrong with teacher education today stems directly from this separation.[11]

In a critique of the report of the President's Panel of Consultants preceding the enactment of the Vocational Education Act of 1963, one author noted the lack of attention to the separatism issue:

> It [the report] left vocational education as a separate educational enterprise, housed in the public schools but with rules and procedures and criteria that set it apart from the rest of the educational program. It seeks to enlarge the scope and the

program and to claim that it is part of general education but it is not willing to have it become a real part of the general education program.[12]

Today, many educational leaders see the value in breaking down the artificial barriers between vocational and academic education through an interdisciplinary approach. Through this method the teaching of separate subjects (e.g., science, mathematics, English, vocational training) is related to the particular skill desired. Although there are variations in this methodology, perhaps the purest example is the curriculum unit shown in table 2.[13] The fact that the barriers still remain suggests that attempts to indeed make vocational education a real part of the total educational system must focus on an interdisciplinary approach to personnel development.

Deans of schools of education in the 11 States tended to be supportive of a move toward more interdisciplinary coordination. One commented:

> I'm trying to make a real frontal attack on the old status arrangements in our college and it's not easy. One problem that exists is that vocational-technical education with outside support can train the students and have its programs and not worry too much about the stodgy old structures of the rest of the college. In a way, that may have been OK in a period of building identity. But I think we're getting the identity of vocational-technical education in good shape. They know what they are doing and who they are and they don't need to be left alone to gain confidence.[14]

A former national president of the Vocational Industrial Clubs of America (VICA) saw the potential value of this approach to learning:

> If a student could be made to see specifically how English composition and grammar would be useful to him in his job as a public relations officer or how he could use mathematics as an electrician, he certainly would not resist having to learn those subjects.[15]

Table 2.--Sample Ellis High School Pretechnical Program (Grade 11)*
Interrelated Subject Unit: The Internal Combustion Engine

English	Physics	Drafting	Algebra	Vocational Laboratory
Mechanical vocabulary and terms	Flywheel inertia, centripetal and centrifugal force	Draw a part of the engine assembly	Ratios	Introduction to engine
Technical oral and written reports	Physics of the cooling system, including radiation of heat	Draft parts to scale, use exact measurements of the parts	Gear and compression	Background to internal combustion engines
Research and reading preparation	Simple machines	(Suggest student choose a part that will coincide with written technical report)	Volume of cylinder	History and purposes of different engines
Outside reading	Connecting rods and crankshaft	Note: Before drafting class can be used in this unit, instructor must feel certain that students have a fairly adequate knowledge of drafting skills and instruments	Piston depressed, piston at top	Instruction in use of tools used by auto mechanics
Discuss engine mockup, math and physics theories, principles of the engines	Other simple machines		Displacement formula	Discussion periods
Supplement	Compound machines		Discuss:	Tearing down the engine
Field trips films, guest speakers	Hydraulics		Efficiency, torque, and coefficient of friction	Dismantle; identify major components
	Expanding gases			Examine parts, observe how they work
	Transfer of energy			Discussion periods
	Velocity and acceleration			Measuring and checking
	Force and acceleration			Measure parts
	Energy and momentum			Check against factory specifications
	Horsepower			Discussion periods
	Torque			Reassembly
	Compression ratio			Finish measuring and checking
	Displacement			Start and complete reassembling
	Timing			Test out engine

Objective: To introduce the student, through practical application, to the opportunities in the automotive field beyond general repair.

*This unit was developed by four pretechnical students at a summer workshop.

Source: Ref. 13.

In an examination of the history of interdisciplinary programs, one educator suggests that the problems have stemmed not so much from the inherent difficulties of crossing disciplinary lines as from the political error of ignoring the force of entrenched departmental power.[16] In academia, an educator's professional advancement depends primarily on the department head's evaluation of his work as contributing to the goals and images of that department. Anthropologist L. D. Freeman contends that the rigid departmental boundaries in the educational system are designed to shape individuals so that they can fill existing roles rather than to create new roles within the larger society.[17]

The task of breaking down such boundaries seems formidable within education itself, but a policy analyst points out that too much stress should not be placed on the school as the creator of occupational bias; it merely reflects the larger societal value system that assigns status to white-collar occupations. The middle class teacher, counselor, or school administrator cannot hold out any image of success except that of white-collar professional achievement. This not only encourages more students to reach out for higher status jobs, but tends to cause those who do not to regard their choices as second best.[18]

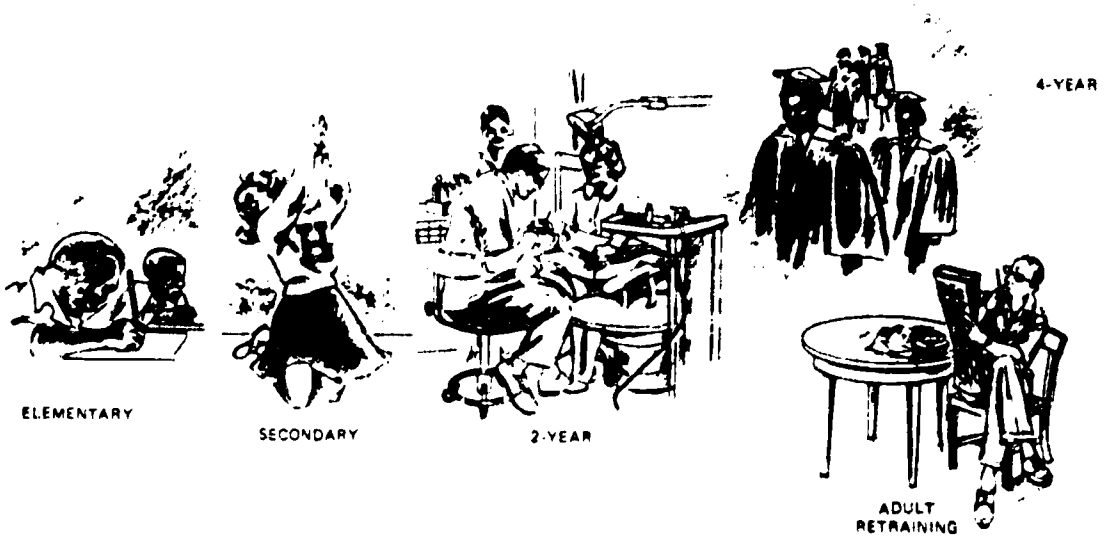
Indeed, one major inhibitor to a promising experiment of the 1960's, the Richmond (Calif.) Plan, was found to be the low status both parents and students accorded these interdisciplinary programs and the difficulty teachers had in working across disciplinary barriers. Designed to provide a higher motivational factor for underachieving students, these secondary school programs brought teams of vocational and academic educators together for the teaching of related subject matter. An evaluation of the curriculum experiment shown in table 2 concluded that in general the Richmond Plan students had shown gains over their control group counterparts. But the evaluation also pointed to the difficulties inherent in implementing these programs, principally because of the problems teachers and counselors

experienced in breaking down disciplinary barriers and working together for the goal of improved student learning.

Pointing to the massive needs for inservice training of educators today, one educator noted that in terms of using the interdisciplinary approach, the conceivers of such approaches as the Richmond Plan were people of "clear vision" at least a decade ahead of their time.[19]

* * * * * * *

Articulation Among Levels of Education



Another issue in personnel development for vocational education arising from the structure of the educational system is the lack of articulation among levels of education: elementary, secondary, and postsecondary. The Executive Director of the Southern Association of Schools and Colleges puts it this way:

> The student can be traumatized in his attempt to move through the system, particularly at the junction points that administratively separate elementary schools from high schools, high schools from colleges, and all of these from vocational/technical schools. . . . [20]

Counselors, teachers, and administrators must communicate and interact to meet the needs of individual students as they move through our remarkably disarticulated system of education.

Of particular significance here is the counseling function, whose failure to provide other than guidance for college placement has been well documented. Interestingly, vocational guidance was introduced into public education as a part of the industrial education movement of the 1920's.[21] At that time the guidance counselor was part labor specialist, educator,

and psychologist, whose principal purpose was to shape good industrial character and instill proper work habits. Through the years, however, and most rapidly with the passage of NDEA in 1958, the orientation shifted away from imparting the work ethic to increasing college attendance.

Evidence suggests that, lacking exposure to the world of work outside the school system, counselors are ill prepared to provide adequate guidance to noncollege-bound students. And work experience other than teaching is becoming rare as a prerequisite for counselors. A survey of counselor certification found that in 1960, 24 of the 38 States then certifying counselors required nonteaching work experience, but in 1971 only 13 States required such experience.[22]

Some think the best source of career guidance available to the vocational student is the vocational teacher, who has traditionally served as counselor as well as instructor. The occupational background of a teacher provides a valuable source of information. However, there are little reliable placement data to support this assumption.

It is at the juncture between secondary and postsecondary education that a crucial problem for minority students appears. Although mixed perceptions about career education are found among minority group leaders, career education's perceived dichotomous goal of either achieving a salable skill or being prepared for further education has been interpreted by some as yet another form of "tracking" which could cut minorities off from access to higher education or professional jobs. Evans suggests that this problem could be minimized if more minority teachers could be recruited in vocational education. As he says, the most critical shortage in any type of education appears to be the shortage of minority group instructors in vocational education.[23]

Table 3 shows the percent of nonwhite vocational educators by specialization. [24] The table is based on a 2-percent sample stratified by geographical area, institution, and level (secondary, postsecondary).

Table 3.--Percent of Nonwhite Vocational Educators by Specialization

Specialization	Percent of nonwhite vocational educators
Agriculture	1.7
Business/office	4.4
Health	2.7
Technical education	3.5
Trades and industry	4.2
Personal and public service (including home economics)	8.7
Counseling	10.7
Program administration	4.8
Related curriculum	9.1

Source: See "Notes" (24) at end of chapter, p. 47

In a report specifically directed to the counseling and guidance functions, the National Advisory Council on Vocational Education recommended that:

- Individuals with rich backgrounds of experience in industry, business, and labor, but with no teaching experience be infused into the counseling system.
- Extensive provision be made for the training and employment of a wide variety of paraprofessional personnel to work in guidance under the supervision of professionally qualified counselors.

- Increased efforts be made to improve sound counseling and guidance services to members of minority populations and other disadvantaged groups.[25]

For the handicapped at the elementary level, more emphasis needs to be placed on diagnosing and remediation. At the secondary level intensive counseling and guidance is needed to determine realistic career goals. At the postsecondary level, some States (e.g., California and Virginia) have initiated special programs.

The problem in transferring 2-year postsecondary program credits to 4-year teacher-training programs is seen as an inhibitor to recruiting more highly qualified vocational teachers. The high growth rate and the increasing complexity of postsecondary education require creative administrative leadership and flexible organizational arrangements.

The need for continuing or recurring education programs should increase dramatically as individuals seek to update or obtain new skills to adapt to the shifting labor market. For basic education alone, the National Advisory Council on Adult Education[26] has derived the following estimates for adults needing to reenter at some juncture of the system:

State	Target population*
California	4,513,145
Colorado	461,261
Connecticut	800,073
Georgia	1,595,415
Illinois	3,147,456
Minnesota	890,660
New Jersey	2,073,023
North Carolina	1,841,581
Ohio	2,909,938
Oklahoma	752,702
Oregon	499,503
Total	19,484,756

*Population 16 years of age and older not enrolled in school, with less than high school completion.

The Council's position is that there is a need to provide an entirely new scheme for preparing teachers and counselors of adults in a career education framework. University and inservice preparation of these teachers and counselors should prepare them to meet both the cognitive and affective needs of adults in remedial, renewal, and redevelopment areas of work.[27]

* * * * * * *

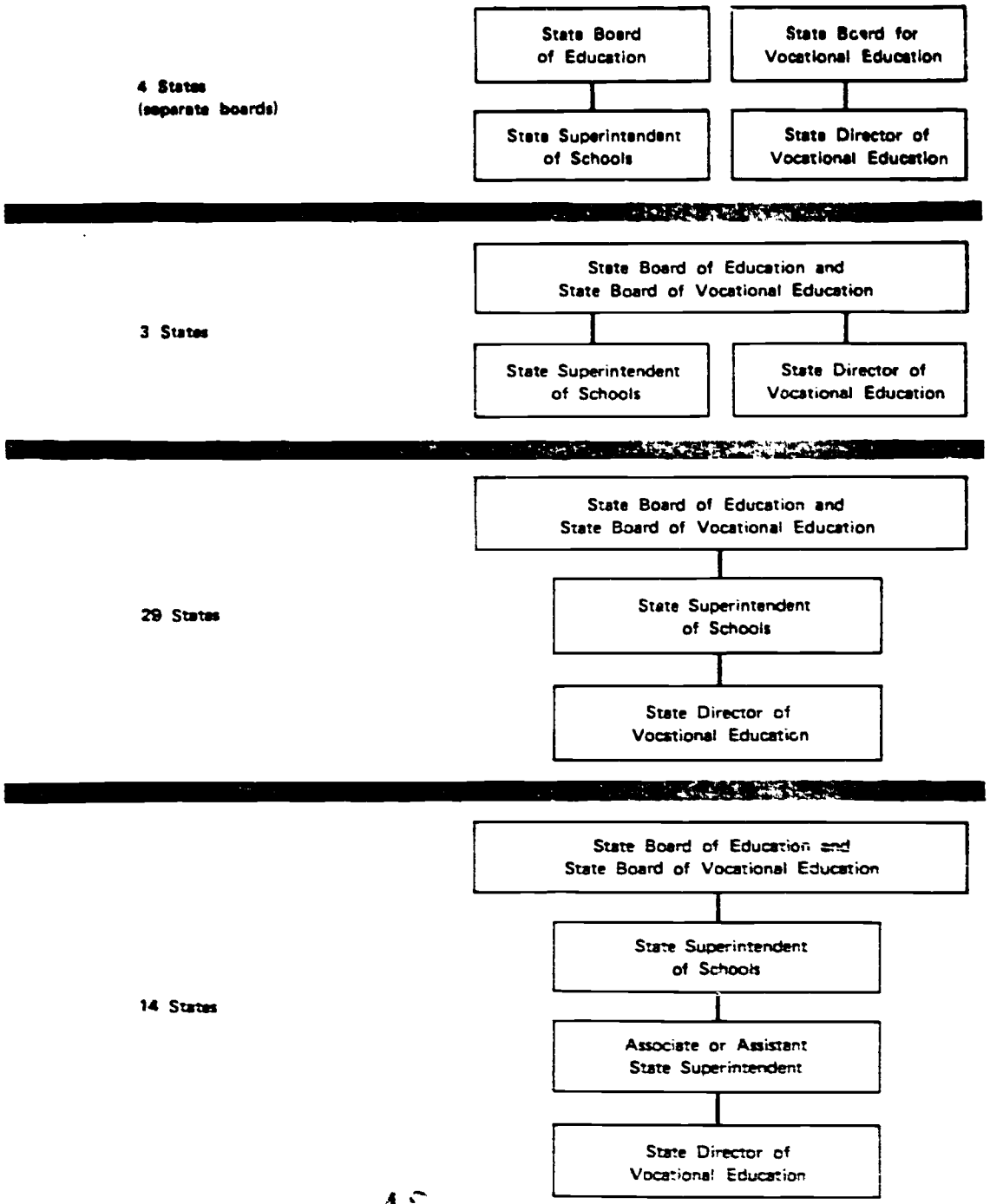
Coordination Among Educational Agencies

Jurisdiction.--According to Fuller's study of Intergovernmental Education, strong bonds exist between USOE administrators in vocational education and State vocational education agencies.[28] In that study State committees left no doubt of their belief that vocational education reaches its program objectives best when administered as a State educational responsibility with Federal support and local program operation.

Because local and State matching funds far outweigh Federal support, control in the vocational education system tends to be concentrated at the State level. In most States, the State board of education also serves as the State board for vocational education as shown in figure 1, but there are variations in this pattern. Differing perspectives were expressed in terms of the effects of alternative structures for administration of

FIGURE 1

ALTERNATIVE STRUCTURES FOR ADMINISTRATION OF VOCATIONAL EDUCATION AT THE STATE LEVEL



SOURCE: Ref. 29.

vocational education shown. State directors of vocational education tend to view separate status as advantageous; one put it this way:

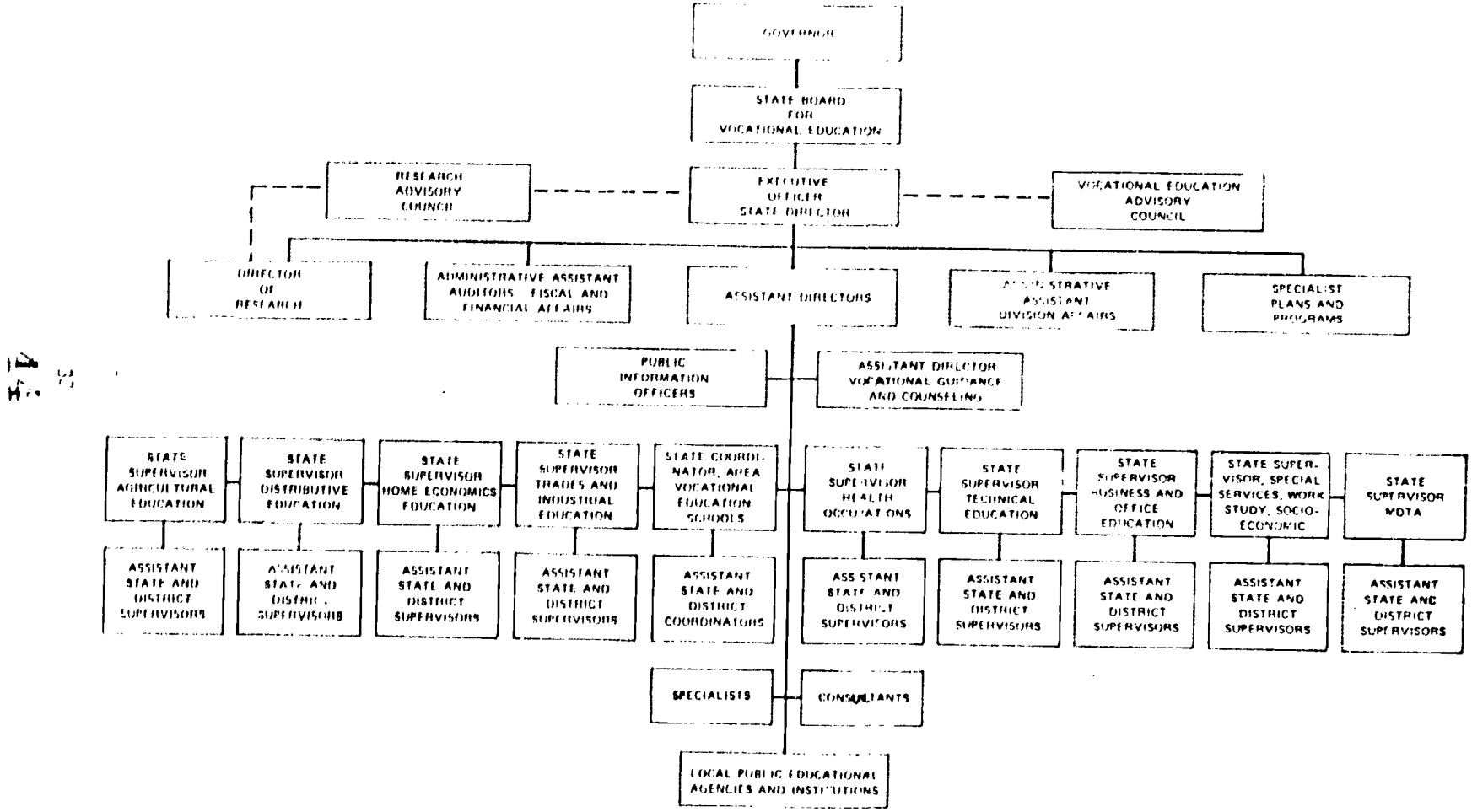
> I think it strengthens education, and I'm especially convinced that it strengthens vocational education. If we're not successful with vocational education in this State, we have no one to blame. In many States, the director of vocational education is several layers deep in the administration and if there's anyone in those five or six layers who's unsympathetic to vocational education, many problems never get to the place where the decisions are made. In this State no one can stop me, except our Board, from lobbying, speaking out on vocational education, from differing with the academic community over what's right for vocational education. I know a lot of State directors who don't dare talk to a legislator. To have categorical aid and then not put the responsibility for carrying out the intents of the legislation in the hands of vocational educators seems strange to me.[30]

The jurisdictional disputes between secondary and postsecondary levels predicted by Usdan[31] in 1969 have recently come to the forefront. Growth in area vocational schools has coincided with similar expansion in vocational technical programs in community junior colleges in many States. This has resulted in program duplication as well as conflict between State departments of vocational education and departments of higher education, primarily over funds earmarked for postsecondary vocational education in the VEA of 1968.

Organizational Structures.--Mangum has noted that after the VEA of 1963 changed the emphasis from occupational categories to meeting the needs of individuals, most State departments of vocational education simply continued the typical departmental organization by segmented fields shown in figure 2. State supervisors in each occupational area administered programs and were responsible for training in their fields. This structure, he says, is more resistant to change than the individuals

FIGURE 2

TYPICAL ORGANIZATION OF A STATE DEPARTMENT OF VOCATIONAL EDUCATION



within it and has often acted as a built-in impediment to change:

> The fact that most State vocational education agencies are still structured according to the occupational categories established by Smith-Hughes and other pre-1963 acts is another built-in impediment to change. Principals and instructors report having innovative proposals turned down because they did not fit within the occupational structure of the State office or because they were 'not in the State Plan.'[32]

As previously noted, organizational structures at institutions of teacher education have paralleled the State department structure. Partially as a result of this organization, communication between the institutions and the local districts that employ vocational educators has been poor. One study concluded that State departments of vocational education have been primarily accountable to their professional peers rather than to the needs of local districts and communities.[33] Swanson has noted that in some States the structure is changing but no pattern has yet emerged as significant.[34]

Funding Patterns.--A major responsibility given to the States is the channeling of Federal, State, and local resources to institutions that provide preparation for vocational teachers. Historically, the fact that land-grant universities have allowed Federal subsidies to pay up to 50 percent or more of the salaries of teachers in the specialized areas--home economics, agriculture, and so on--can be interpreted as a low level of commitment to personnel development in vocational education. Some universities still rely on full Federal subsidies and exclude funds in their regular budgets for teacher preparation and personnel development in vocational education. One concerned official remarked:

> If I were in Congress, I'd be interested in knowing if the institutional commitment is changing. If the only way we have of maintaining vocational education is to maintain Federal requirements, if we do not make enough penetration into the institutions that are preparing staff so that they begin to reflect a commitment to the total program of education, then I think it's sad that Congress has to be the big daddy to do this.
>
> Now the unique staff development that's needed to further special vocational personnel for changing needs in industry and business, the additional staff development that's needed to acquaint general educators with the career education aspects-this is where the additional money ought to be used.[35]

In the 11 States studied, a trend was noted toward universities supporting such extra services. One dean of a school of education thought the Federal subsidy should be used to encourage an interdisciplinary approach to training both vocational and academic educators:

> Now is the time to switch strategies and to move in directions that will build ties between professors in this field and other professors. The grant and the deal should still probably be made with the vocational-technical department. I'm not advocating giving the money to someone who doesn't understand what you are trying to do. State Departments of Vocational Education have done a good job in helping us build the way we are. But if they continue the funding pattern of the present, they are going to continue this split between our liberal arts and our vocational people. And that split in the end, is going to work to the detriment of vocational education.[36]

Certification and Supply.—Another major responsibility that States have been given is certification of vocational educators; segmentation by occupational fields is reflected in the specific and in the different procedures for certification of teachers in each specialty.

An issue here is the lack of uniformity across States in both occupational and pedagogical requirements. This lack of uniformity inhibits the geographic mobility of vocational teachers. States find it difficult to develop new certificates that permit innovative types of programs.

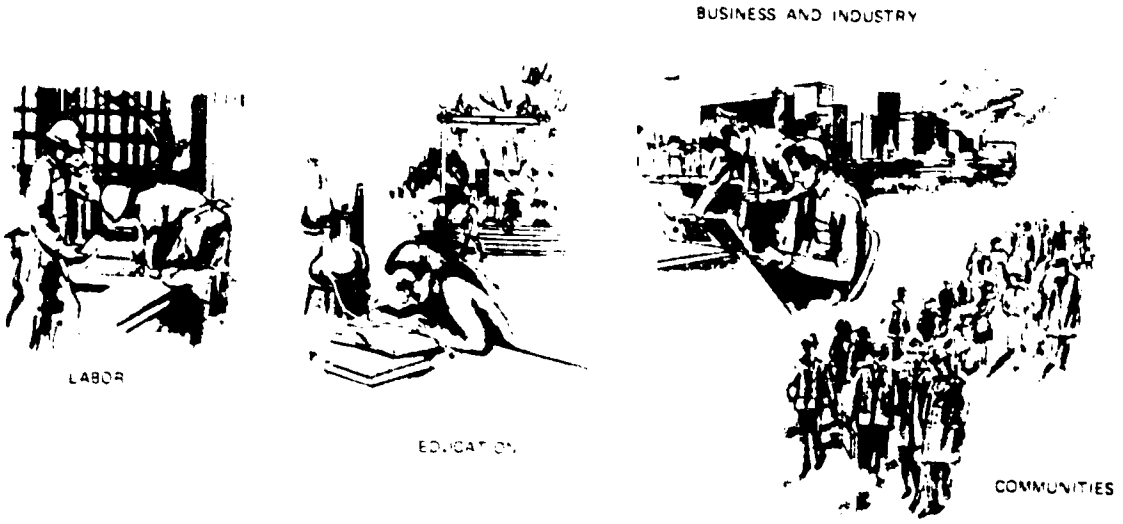
Another link among Federal, State, and local vocational agencies is the State plan mandated by the VEA of 1968. Since 1972, four new tables have been required in the plans to show (1) supply and demand for personnel, and (2) funds allocated to personnel development under all parts of the VEA of 1968. Since planning varies across States, it is difficult for all States to mesh their programs into the common format required by USOE guidelines.

The problem has also surfaced in States that have tried to reorganize according to career education objectives or occupational clusters. State planning is done in the State's own categorical system and then translated into the format required for reporting to USOE. One of the major lacks seen in the State planning tables was an inability to reflect changing needs for inservice training:

> In-service training needs can't always show up in the State Plans because trade and industrial teachers are reported as they are. But if we're going the cluster route, there's no place in the State planning table to show where we're going to train 40 cluster teachers. So [illegible] our needs are difficult to portray. 37

Yet, at the same time, some held that the documentation was as good as anything currently available and that the State plans had been a catalyst for more systematic efforts.

Linkages External to the Educational System



Problems of linking educational organizations with manpower agencies for the purpose of projecting the supply and demand of teachers start at the Federal level and proceed down through the State and local agencies.

G. G. Somers has presented the following critique of the attempts to date in projecting manpower needs in vocational education:

> Very few national projections of teacher supply and demand in vocational education have been attempted. Those that have been made arrive at varying estimates of the amount of shortage which all agree will exist. The most recent and ambitious attempt to project supply and demand is seen to be limited in the range of the projections and so beset with a lack of necessary data that a set of questionable assumptions must be adopted. The criticism is not directed at the authors of these studies; they are to be commended for their courage. Rather the blame lies in the lack of needed data and the sorry state of the art of projections.[38]

Somers suggests a modest, short-run approach on a local or regional basis, which would project teacher outputs and employer demands based on past and present experience.

Most respondents indicated difficulty in identifying new and emerging occupations. As one State director of vocational education puts it:

> That one bothers me--if they're so new and emerging, we don't know that they're around yet. If they are around, they have to be around in sufficient numbers to be identified and to provide a program. Like ecology. We were told that we should be preparing students in an ecology program and the various occupations that were related to ecology were sent to us. We asked what the labor market would be for those occupations in the foreseeable future. We got zilch. As far as was known, nobody would be needed in this State for those occupations.[39]

Coordination With Business and Industry.--Somers maintains that although effective coordination with industry has long been a problem in vocational education, the newly enacted manpower legislation Comprehensive Employment and Training Act (CETA) has given urgency to the issue.[40] He claims the following fundamental questions need to be addressed:

> (1) Who should be trained in vocational schools and who should be trained on the job?
>
> (2) Are vocational educators spending public funds in training workers who should be trained by private employers at private expense?
>
> (3) Are government manpower funds being used to subsidize employers in training workers for specific, short-term jobs which cannot serve as a substitute for fundamental, long-term vocational training in vocational schools?
>
> (4) Is skill training for many of the disadvantaged really necessary, or can their absorption into the labor market be equally well served by short-term counseling, job placement programs, or work experience?[41]

The question of locale of skill training is related to the issue of specificity of skill training, discussed above. Some vocational educators believe that the cluster approach would give students a good background in

an occupational area, and they could then supplement this with on-the-job training in the context of a cooperative work-study program or in post-secondary programs.

Burt maintains that the time has come to broaden the "industry education team" to include economists and other behavioral scientists, such as psychologists and sociologists. He contends that these disciplines will assist educators in resolving many of the problems plaguing them as they try to involve industry more effectively in their programs.[42]

The significance of involvement with industry is apparent if the reforms being called for by the career education thrust are to be realized. It will be an immense task to locate suitable work environments and to handle the logistics of student movement to and from work and school. Although the work-study and cooperative education programs have been one of the more successful facets of vocational education, they have represented a relatively small share of the total vocational efforts for students.

The fact that employers are reluctant to hire the handicapped also points to the need for more cooperation between industry and education. Typically, the only contact in the past was made by secondary school work-study coordinators who saw it as their responsibility to find occupational placements for their handicapped students. They had to convince industry of the benefits of hiring the handicapped.

Statistics show that nearly 80 percent of the employed handicapped work in service, sales, or unskilled or semiskilled jobs. Limited occupational choices can sometimes be expanded by staff well versed in the education of their students and in their contacts with employers. Such staff may promote new job redefinitions to accommodate the handicapped. They may also find that many of the unskilled jobs considered boring and degrading by many employees may not be so considered by handicapped workers.

To a handicapped employee an unskilled job can be self-fulfilling in allowing him to demonstrate his competency in some area.

The Involvement of Labor.--Since labor unions first came into existence, they have been committed to the learning value of work experience. But the concern about the separation of vocational and academic education expressed in the report of the 1915 American Federation of Labor Convention is evidenced today in labor's thinking about the career education concept:

> One of the most valuable concepts in the VEA of 1968, one which AFL-CIO have enlarged upon in much of the present discussion of career education, is the need to bring vocational and academic education closer together. The ability, not simply to read but to read with critical judgment, is as much a part of the skill needed by an auto mechanic as the ability to use precision gauges.[42]

One fear of organized labor is that, in fact, career education may be used to deny support for academic education. The most vital issue, however, seems to be the extent to which student on-the-job learners will be competitive to already employed workers. Unions feel they have to protect the job rights of their own members before going on to provide educational experiences for others. One union educational leader claims the only place that students can get jobs in periods of heavy unemployment is in marginal industries that are not unionized.

Belief is apparent that on-the-job training programs should be subsidized only where the employer can demonstrate that the costs of the training are substantial. If pressures are applied to relax negotiated wage rates and even minimum wage laws to accommodate student workers, resistance from unions must be expected.

Overall, the sentiment of unionized workers seems to be this:

> On-the-job educational programs can be a valuable part of the student's experience, provided that they are controlled by public education authorities as a component of a complete curriculum; provided that employers, unions, and other relevant community groups participate in the planning on a basis of equality; and provided that as a nation we adopt policies designed to create a full-employment economy.[43]

Community Involvement.--Advisory councils, which were initiated with the Smith-Hughes Act, are vocational education's major link with community groups. Yet, the lay citizenry and community action groups have not been used to the fullest extent possible. Few advisory councils have given personnel development reform a major emphasis, although the Oregon State Advisory Council had announced evaluation of staff development as its number one priority for fiscal year 1975.

Needs for Leadership

Obviously, to meet the demands career education imposes on the educational system, broad-based, comprehensive leadership is required. We talk about new linkages among departments, disciplines, levels of education; among States, institutions, and local districts; and between education and its periphery. But we are really advocating full-scale institutional change. As Murphy[44] and others have noted, we simply do not know enough about how organizational change takes place. We do not know that to move in this direction, we must either change the existing personnel or add new personnel:

> The enactment of legislation and the appropriation of funds form the skeleton and provide the authority for an education program. However, it is people--many people working at all levels of government--who ultimately translate a program into a viable reality. When the efforts of these people are coordinated and supportive, the program can achieve a measure of success in fulfilling its objectives as stated in the law. When their efforts do not mesh, there is little chance of such success.

Murphy claims that change is usually dependent on extra organizational pressures largely beyond Federal control. But in the absence of such pressure, he suggests that personnel can indeed be important in effecting major change; that is, given time:

> Existing organizational orientations and routines are not impervious to directed change. Careful targeting of major factors that support routines--such as personnel, rewards, information, and budgets--can effect major change over time.

Change in both vocational and academic leadership for an integrated approach will indeed take time. As previously mentioned, vocational education leadership has generally emerged from specific, differentiated fields. This leadership specificity started with the Smith-Hughes Act's provision that supervisors be trained in agriculture only. An awareness of the need for leadership can be traced throughout the development of vocational education. Three earlier bulletins issued by the Federal Board for Vocational Education dealt with training for leadership in agriculture, home economics, and trade and industrial education.[45 46 47] The Russell Panel's evaluation in 1938 noted that not much had been done to provide training for administrative officers in vocational education.

The President's Panel of Consultants in 1963 made brief reference to the need for leadership in the "new" vocational education, recommending that ". . . an effort should be made to detect potential leaders and provide training for those who are selected." [48] The 1968 Advisory Council on Vocational Education noted that although national conferences were held annually in some fields, they were conducted on a shoestring and at no time was it possible to provide adequately for leadership development. In fact, the 28 leadership conferences and training programs in vocational education funded in 1965 and through 1967 represented only 8.3 percent of the total expenditures for various activities that had been recommended by the 1963 Panel of Consultants. [49]

Rogers sees one of vocational education's major problems to be its "lack of a coherent program or intellectual base." [50] Looking back on the vision and stature of the early leaders of the industrial education movement, Barlow asked, in 1967, "Where are the great leaders among us today?" Commenting on their absences, he noted:

> The hard work of keeping the program in operation has not been conducive to the production of philosophers, sociologists, historians, economists, or psychologists in industrial education, but this need, too, must be satisfied. [51]

Deans of schools of education from their vantage point saw the need for preparing leaders who could communicate and work together across disciplinary boundaries while still maintaining their individual areas of expertise. The following seemed typical of their perspectives:

> We need people who can understand both worlds. What is really a shame is to find an effective practitioner who knows the problems, who knows the people, say, in an area like health education, and yet is not comfortable talking to our traditional scholars, who is skeptical that they have anything to offer. But the kind of individuals who are really valuable are the ones who can talk to people right in the middle of these career education programs working in agencies outside the college, who can bring information and ideas from them to our seminars and graduate students who are doing dissertations. Who, when they get a good idea about some research design from an educational psychologist, can take the jargon out of that idea and present it in simple English to people who aren't experts but who would benefit from it and enjoy it. If I had to pinpoint the kind of leadership in vocational and technical education I'm interested in, then that is it.[52]

The lack of a requirement for exposure to vocational aspects of the educational process in obtaining an advanced degree or general administrative certificate is a serious deterrent to achieving integration between the two fields. One early Federal bulletin did focus on such training for general administrators, but advice such as the following may have inhibited its use:

> In the area in which his judgment is free, a superintendent:
>
> 1. May have to sacrifice in a teacher, acquaintance with certain traditional fields of study (so-called cultural subjects) for actual experience in the trade which the teacher is to teach.[53]

A critical need for leadership, in both vocational and academic education, is among ethnic minorities. To the extent that career education deals with problems of minority leadership, it will find favor; to the extent that it ignores or perpetuates these problems, it will find opposition. The perception of ethnic minority groups that career education is just another tracking system designed to deny access to higher education is directly related to their absence in leadership positions. The view is that it would be folly to think people holding both economic and

political power would hesitate to issue directives on the careers future generations must adopt:

> Herein lies the real danger for the Black American for unless he is involved at the highest level and is engaged in the task of selecting, influencing, and managing the essential career areas as trends develop, we may be certain that no significant change will come about relative to our socioeconomic plight, . . . and thus American education problems as they relate to the Black American are perpetuated.[54]

Alfred G. de los Santos is also cautious about the implementation of career education and the lack of concern over including Chicanos in the planning and leadership of the movement:

> The area of greatest concern to me is the need to train/educate Chicanos for positions of responsibility within the educational system--from counselors, through administrators. I think the greatest need is for higher education administrators.[55]

There can be little doubt that leadership--in vocational education particularly--is critically needed. Although there was, and still remains, much ambiguity in characteristics needed for leadership, there is remarkable congruence between one requirement advanced in 1927 and one suggested by Roman Pucinski (chief architect of the VEA of 1968) in 1971:

> Training for Leadership in Trade and Industrial Education, April 1927
>
> g. Courage and Persistence.--With any group, courage of conviction, independence of judgment, and willingness to take risks are determining assets.
>
> In the face of opposition one with a weak personality loses his nerve, becomes convinced that he is wrong, that his cause is unworthy, and that the chances of success are poor.
>
> The value of persistency can not be overestimated. With adverse conditions a leader must hold on as long as there is a fair chance of success. . . . [56]

"The Status Quo Revisited" in the "Courage to Change," Pucinski, 1971

> Many of the most stalwart, aggressive, inventive change agents have eventually found themselves "killed off" by the system—victims of bureaucratic freeze-outs as documented by David Rogers in 110 Livingston Street, scorn and apathy from colleagues and superiors, opposition from the public, or sheer exhaustion from the magnitude of the task. Discouraged at expending so much energy with such disappointing results, many have ended up modifying their dreams or retreating to other arenas. This tragic trend must be halted; we must develop the courage to change.[57]

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Public Law 90-576
90th Congress, H. R. 18366
October 16, 1968

An Act

82 STAT. 1064

To amend the Vocational Education Act of 1963, and for other purposes.

"EXCHANGE PROGRAMS, INSTITUTES, AND INSERVICE EDUCATION FOR VOCATIONAL EDUCATION TEACHERS, SUPERVISORS, COORDINATORS, AND ADMINISTRATORS

"SEC. 553. (a) The Commissioner is authorized to make grants to State boards, as defined in the Vocational Education Act of 1963, to pay the cost of carrying out cooperative arrangements for the training or retraining of experienced vocational education personnel such as teachers, teacher educators, administrators, supervisors, and coordinators, and other personnel, in order to strengthen education programs supported by this part and the administration of schools offering vocational education. Such cooperative arrangements may be between schools offering vocational education and private business or industry, commercial enterprises, or with other educational institutions (including those for the handicapped and delinquents).

Given the issues identified in the preceding section as major barriers to change in personnel development for vocational educators, an important question needs to be explored: To what extent were these issues addressed by EPDA's part F? At the same time, however, it should be emphasized that program objectives for EPDA's part F were not directed to resolving the entire spectrum of problems presented in Chapter I. Certainly there was hope for change that would ultimately result in improved education for students. But the legislative enactments simply reflect the assignment of a higher priority to the development of vocational education personnel through improved modes of training.

The findings in this section are derived from 11 States that received section 553 grants in the first year of the program's operation--fiscal

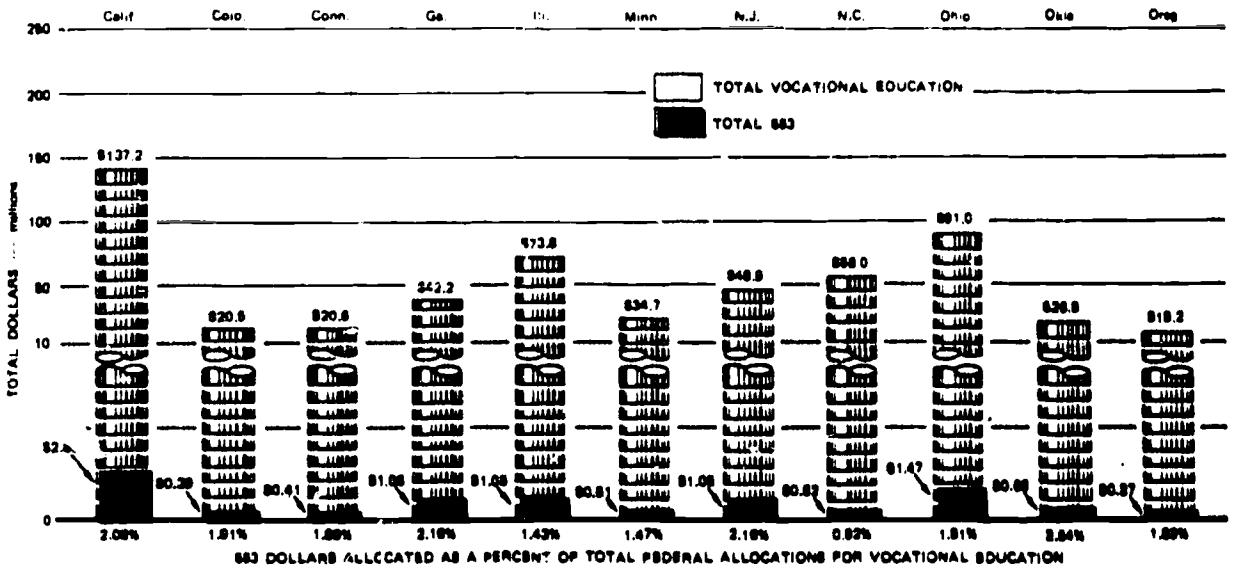
year 1970. They reflect both the achievements and problems experienced as these States implemented and adapted section 553 to meet their individual needs and diverse objectives.

Funding Patterns

All interviewees in the 11 States (VEPD coordinators, State directors of vocational education, university personnel) were unanimous in saying that they thought section 553 had indeed provided "change agent" funds. Yet, as shown in figure 3, when stacked against the total Federal dollar allotted to the 11 States for vocational education overall, it represents a relatively small investment. However, these funds permitted States,

FIGURE 3.

TOTAL FEDERAL ALLOCATIONS TO STATES UNDER EPDA'S PART F, SECTION 553, SHOWN AS A PERCENT OF TOTAL FEDERAL ALLOCATIONS FOR VOCATIONAL EDUCATION (FISCAL YEARS 1970-73)



institutions, and districts jointly to develop innovative programs in personnel development.

Some States, such as Minnesota, had used EPDA funding as "seed money," starting numerous small projects to "get the ball rolling" in several directions. Others, such as North Carolina, tended to focus on one major developmental effort. Areas of concern in personnel development to which 553 funds were directed are some of the most problematic:

(1) Administration and supervision
(2) Advisory councils
(3) Business and industry exchange
(4) Career education development
(5) Certification/degree
(6) Counseling/guidance
(7) Curriculum
(8) Evaluation
(9) Individualized instruction
(10) Special needs
(11) Specific vocational fields
(12) State staff
(13) Supply and demand
(14) Other

Appendix A lists by category some of the projects carried out in the 11 States under section 553 funding, indicating the direction and interest of personnel development for fiscal years 1971-73. It also indicates that most of the cooperative arrangements were made with institutions of higher education. Appendix B lists the section 553 projects for Oklahoma and shows the numbers and types of participants.

Most interviewees commented on the limited fiscal resources available for experimental programs in personnel development. When asked what section 553 enabled them to do that they could not have done otherwise, one simply remarked, "Everything that was done." One State director

of vocational education explained his problems in committing State funds to personnel development:

> We have problems here with a very rigid fiscal officer who has to sign every contract. But we're safe with this money because it can only be used for teacher-education inservice or preservice. EPDA has been a lifesaver.*

Another State director remarked on legislative controls imposed on expenditures for personnel development:

> . . . You see, in our State we have a law that you can't use State monies at all for teacher education. The legislature says that they appropriate and that, if they're going to appropriate vocational funds, then those funds are for vocational classes not for teacher education. So we can't go out and use any State funds for teacher education. We can use Part B funds.

Understanding such restraints assists in interpreting the generally low level of State effort shown in table 4, where planned State expenditures for fiscal year 1973 under parts B, C, D, and F of the VEA of 1968 are shown as a percentage of total vocational education expenditures in the 11 States. These figures suggest that personnel development activities are supported largely through Federal funds, although in most States some State and local monies are also used.

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*All the quotations in this chapter come from personal interviews made in May and June 1974.

Table 4.--Expenditures for Personnel Preparation and Development as a Percent of Total Vocational Education Expenditures for Selected States, by Funding Source (Fiscal Year 1973)

State	Percent of Federal funds	Percent of State and local funds
California	2.5	0.1
Colorado	6.6	1.9
Connecticut	6.2	2.2
Georgia	4.3	1.4
Illinois	4.1	0.2
Minnesota	8.4	[illegible]
New Jersey	5.5	.4
North Carolina	0.0	0.5
Ohio	6.5	0
Oklahoma	4.6	0.5
Oregon	8.8	0.2

Note: Numbers rounded to one decimal place.

Table does not include EPDA's part F funding, but does include expenditures funded under parts B, C, D, and F of the Vocational Education Amendments of 1968.

VEPD Coordinator

Characteristics.--Section 553 guidelines require that State departments of vocational education designate a staff person responsible for systematic planning and coordinating of both preservice and inservice personnel development. All 11 States appointed a VEPD coordinator. The first position of its nature to be available in the department.

Before the section 553 program, no one on department staffs in the 11 States had specific responsibility for teacher education. As time permitted, State supervisors with backgrounds in specific vocational fields worked directly with university teacher-educators having similar backgrounds.

In contrast, the VEPD coordinators in the 11 States brought to their new positions some notable diversity of experience and educational background. Some had taught (e.g., mathematics, biology, agriculture, science) at both the secondary and postsecondary level; some had counseled in postsecondary technical institutes, directed special projects for community colleges, or administered a secondary school; and some had been involved with research and curriculum development. Experience with their respective State departments of vocational education ranged from 3 to 28 years, with the average at 8 years.

The youngest of the 11 coordinators is a recent graduate of the section 552 program at the University of Minnesota and thus has a comprehensive Ph.D. in vocational education. Six others also have doctorates: four in educational administration and two in agricultural education. The remaining four have master's degrees: two in educational administration; one in business administration, and one in agricultural education. No females and no minorities are represented.

Location.--Organizationally, the VEPD coordinators are located in State departments of vocational education, generally housed in administrative headquarters. Some change in the traditional department structure noted in chapter II was found in all the 11 States, but there was considerable diversity and no consistent patterns emerged.

However, organizational change did have implications for the VEPD coordinator's approach to personnel development. For example, although State supervisors for the differentiated fields of vocational education remain, in some States they are now grouped within a structure organized by activities or clusters. Oregon has added consultant specialists for development of occupational clusters. This means that VEPD coordinators must develop familiarity with the clustering approach to training in addition to other duties.

As shown in figure 4, in Illinois the VEPD coordinator is part of a professional and curriculum development unit that includes a staff of 23 persons, or almost 25 percent of the total department staff. An administrative planning council consisting of coordinators of the units designated meet on a regular basis for planning activities. Such change had been effected following the enactment of the 1968 Amendments:

> The implementation of the 1968 Amendments caused a reorganization of the State staff that included a unit specifically charged with personnel and curriculum development. At present, there are four full-time professionals and three supportive staff whose full-time duties are devising, implementing, and monitoring contracts with universities for developing new strategies for teacher education (both in-service and pre-service).

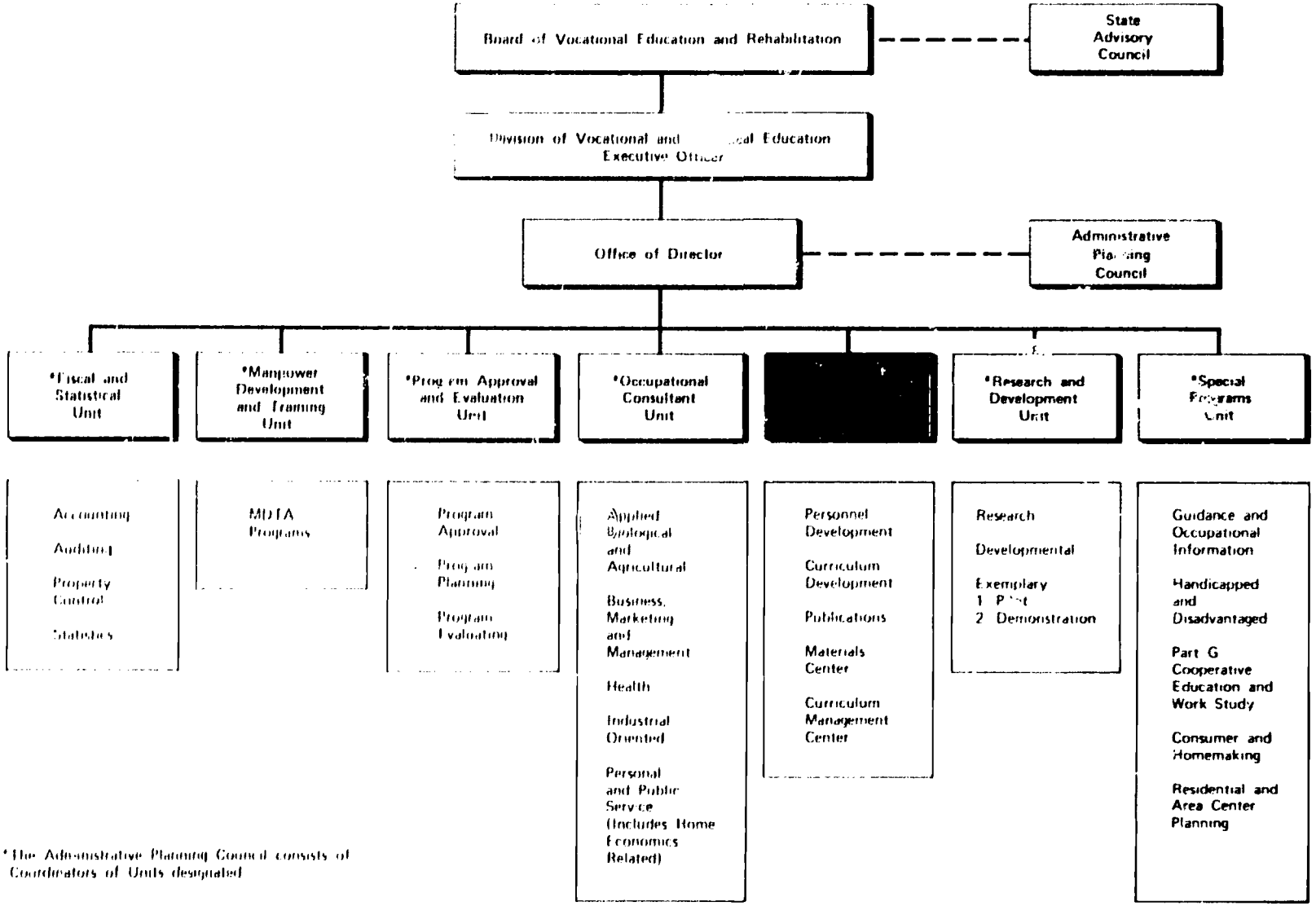
In most of the States, however, the only additional person added with specific responsibilities for personnel development was the VEPD coordinator.

Duties of the VEPD Coordinator in the State System

Coordination of Training Activities.--As the title implies, a major duty of the person responsible for section 553 is coordinating all preservice and inservice activities in State departments of vocational education. As previously described, prior to section 553 only teacher training directly related to subject matter field had been

FIGURE 4

ORGANIZATION OF ILLINOIS DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION



*The Administrative Planning Council consists of Coordinators of Units designated

conducted, and this was often reported to have been "low in quantity and quality." Although training in specific fields continues to be conducted by State supervisors, most of the 11 States are better able to unify their training efforts, and proposals for such training are generally sent to the VEPD coordinator for approval. As one coordinator expressed it:

> I'll tell you what really happened before 553 came into being. Before that, the supervisor of business education went over and made his private deal with the business college. The supervisor of agriculture went over and made his private deal. The supervisor of home economics did her private thing with the college of economics. We now not only coordinate with EPDA, but this office coordinates all teacher education for the State department. No private deals are made anymore. Supervisors may negotiate some things they want done, but then they come in and agree on the final negotiations down here in the director's office.

There is variation, of course, in the extent to which coordination has been effected. One VEPD coordinator said that coordination as he would like to see it is not possible under the subject matter arrangement. Another said he had not been able to effect any change whatsoever in traditional private arrangements made. Most agreed that the biggest inhibitor to more effective coordination was the protective concern of subject matter specialists. One VEPD coordinator's remarks are typical:

> In the past, and still in the present, the biggest thing I fight is that distributive education has its concern; trade and industrial has its concern. Especially at the postsecondary level where our big emphasis is, the need is for total staff development. It's not distributive education, not trades and industrial needs, but to say in five years, "Here's the skills we'd like our staff to have: a long-range plan that involves everybody and is competency based." Seventy-five percent of the pedagogical competencies are the same.

There was some evidence, however, to indicate that supervisors in the different fields now tend to be broader based program officers. In Georgia, for example, each supervisor has responsibility for two or three

of the educational service districts into which the State is divided. This arrangement appears to serve a dual purpose; local districts are given a central contact at the State office for any of their staff needs and at the same time State supervisors, working out of that office, have become more knowledgeable in all aspects of vocational and career education.

Coordination of Inservice Training for State Staff.--Although not a major emphasis in the total array of section 553 projects, in some States personnel development for State staff in the department of vocational education was seen as a priority need. In most States, management by objectives was a major thrust. The assistant director of the Oklahoma State Department of Vocational Education was working with a consortia of States in this development.

Interviewees in Minnesota thought the most important benefit provided by EPDA had been such training. Here, one staff member noted the previous difficulty in obtaining State funding for this purpose:

> There's never been any money to apply against the training of our State staff. Each year we've developed a program for them specifically, starting the very first year with management by objectives--70 professionals, you know. The time commitment of that many people for eight days of training makes it a pretty costly venture. The staff now anticipates and expects to be involved in upgrading themselves. So I think that was a major kind of a change. And this is something that wouldn't have happened without EPDA.

North Carolina, too, had a strong emphasis on State staff retraining. In fact, the goal was to have each staff member function as a "teacher," including the State director himself who, on occasion, filled in to replace teachers needing time off from workshops.

New Jersey is using section 553 funds for training vocational division staff in evaluation methodologies; a State college team now works with the total staff of 88 division members. An extra advantage of this interchange is expected to be the exposure of academicians to the problems and needs of vocational education.

Training for evaluation by State staff, in fact, although not a major focus of the section 553 program, was seen as a major need. Project directors were generally at a loss to explain results in quantitative terms, yet they were convinced that the projects had had an enormous impact. As one VEPD coordinator said:

> I'm fully convinced that the total impact of all these projects has been larger than the sum of the parts because of the interrelationships we've had. I wish we could come up with some quantitative ways to measure the impact of these things. This would make my job much easier. I don't know how to do that. If we had not had these 24 projects over the past four years, I feel very strongly that the status of vocational education in this State today would be different from what it is.

Some States, however, are using section 553 funds to develop more systematic reporting and evaluating procedures. Illinois is now conducting a comprehensive follow up of all past section 553 projects and participants. Through a contract with an outside agency, Georgia is assessing the impact of its personnel training activities at the local level.

Planning for Personnel Supply and Demand.--Involvement in planning for teacher supply and demand was a responsibility of most of the VEPD coordinators. In this function they often found the State plan data format required by Federal guidelines quite frustrating. For example, one interviewee in Minnesota noted that table 5, which summarizes information from the State plans, shows a surplus of agricultural

Table 5.--Actual Demand for Vocational Education Personnel Preparation and Development (Fiscal Year 1972)

	Calif.	Colo.	Conn.	Ga.	Ill.	Minn.	N.J.	N.H.	Ohio	Okla.	Oreg.
Agriculture	-5	+18	-2	-1	+68	+8	-6	-33	-2	+7	-6
Distributive education	-76	+29	+8	-13	+130	+9	+43	-72	-115	-7	-10
Health occupations education	--	-14	--	-6	-110	-12	-10	-2	-25	-64	-34
Home economics (gainful)	+24	+40	--	+18	+130	+4	+255	+116	+71	-7	+9
Home economics, occupational preparation	-26	+1	--	+12	+10	-96	-4	-19	-20	-5	-7
Office occupations	+22	+10	--	-15	+190	+21	-144	+413	--	+7	-86
Technical education	--	+10	--	-9	-80	-18	-49	-10	--	-28	-58
Trade and industrial education	--	+28	--	-155	-90	-85	-51	+43	-371	-40	-112
Other	--	--	--	-36 (CVAE)	--	--	--	-114 (Pre-vocational)	--	--	--

Source: State Plans

teachers for his State when, in fact, a shortage exists in many areas of Minnesota. Entries in the "Other" column in table 5 for Georgia and North Carolina also reflect the difficulty State planners have in using standard categories to reflect actual State planning for special programs.

However, EPDA funding, in fact, had been used in some States to improve their own systems of projections for teacher supply and demand. With section 553 funds, the University of California at Los Angeles, for example, is developing a profile of all vocational teachers in the State. Training needs in 15 broad service areas have been identified by teachers and directors, and priority lists have been developed. For the first time vocational program planners in California will have systematic information as a result of the new information retrieval system being developed.

At least two States were making efforts through EPDA to retrain surplus nonvocational teachers for the secondary schools where the greatest need was seen; other States were considering the possibility. As one EPDA coordinator explained it:

> We don't yet have a good secondary delivery system; our emphasis has been on getting vocational training into high schools. So, EPDA activities there are mostly trying to retrain. With declining enrollments we have teachers looking for work. So, maybe we have a good physics teacher who can become an electronics teacher. We've set up internships so that the physics teacher can get work experience in industry in a couple of quarters. He'll intern in an electronics firm and he can become certified to teach vocational classes.

Given the career education thrust, few States were able to come up with quantitative projections for a supply of vocational teachers, although one EPDA coordinator said the need for training and retraining in his State was massive and both academic and vocational teachers in career education:

> I'll separate career education and vocational education. In career education the need is massive--we're talking about training or retraining every one of the 20,000 teachers in Colorado.

> In vocational teacher education, there are about 2,400 secondary and postsecondary teachers. With a 25 percent turnover per year, that means we have to have 600 new teachers in all areas. Our teacher education institutions are turning out about 200 per year. We've told them they have to double, but if we can't give them the dollars, they can't double the enrollments.

VEPD Coordinators and Advisory Councils.--In each of the 11 States, the VEPD coordinator worked with an advisory council for personnel development. In about half the States, such councils were a direct result of the section 553 program; in the other States, councils had been in existence for varying amounts of time previous to the introduction of section 553. Table 6 shows the composition of such councils which varied widely from State to State.

The largest representation was by State agencies (including governing boards) and institutions of higher education. In four States the community college association was represented; five States also had a member from the Association of Junior College Presidents.

Minnesota had members of nonvocational areas of education from the various levels, especially postsecondary and higher education. In the other States nonvocational members came from the State department of education, e.g., the Division of Pupil Personnel Services.

Five States had one or more representatives from business and industry, only two States had a labor union member, and only New Jersey and Ohio had members of the lay citizenry represented. There was almost no student representation except for the Ohio council, which had a vocational teacher-education student on its rolls.

Illinois has a unique advisory council. It is composed of two committees, education and industry, which were set up following the 1968 VEA. The education committee improves coordination between the State department

Table 6.--State Personnel Development Advisory Committee Representation by Educational Level or Area of Interest

Representatives from	Calif.	Colo.	Conn.	Ga.	Ill.*	Minn.	N.C.	Ohio	Okla.	Oreg.	N.J.	Total
State educational agencies	4	7	2	4	1	2	5	4	11	2	2	44
Institutions of higher education	2	2	4	4	8	4	--	2	9	1	2	38
Postsecondary institutions	1	6	2	1	1	--	--	--	1	1	--	13
Local education agencies	1	4	7	4	--	--	1	2	--	3	--	22
Educational associations	--	--	--	--	--	1	1	1	1	11	1	16
Business/Industry	1	1	--	--	3	2	3	--	--	--	--	10
Labor	--	1	--	--	1	--	--	--	--	--	--	2
Community	--	--	--	--	--	--	--	1	--	--	1	2
Other	1	2	--	--	1	--	--	--	1	--	4	9
Total	10	23	15	13	15	9	10	10	23	18	10	156

*Composed of two committees: Education and Industry.

Source: State Plans

of vocational education and the universities. It is composed of the personnel unit coordinator and his assistant, eight representatives (one from each of the institutions training vocational personnel) appointed by the president of their respective universities, and ex-officio members from the boards of higher education and junior colleges. The industry committee is composed of members of the State Advisory Council for Vocational Education, representing business, industry, and government. This committee helps determine which programs are in the best interests of the people of the State. No funds for personnel development, section 553 or otherwise, are allocated without first determining priorities based on information from the two committees, the universities, and the personnel on the job.

Frequency of advisory council meetings ranged from monthly to annually, with most States attempting to convene councils for semiannual meetings. Opinions on council usefulness seemed to vary with frequency of meeting. Inhibitors to more frequent use of such councils are viewed mainly as (1) lack of incentives for participation other than provisions for travel expense, (2) inherent difficulties in assembling people from widespread geographical regions, and (3) lack of lead time resulting from late notice of Federal funding.

One key to increasing interest of councils was seen to be giving members meaningful assignments. Interestingly, one advisory council which did a study of teacher needs, identified discipline as the number one problem. Several suggestions, including some from teachers and students, were offered for improving the composition of advisory councils. One suggestion was:

> I think we also need a teacher education advisory committee that has secondary teachers, community college teachers, undergraduate and graduate students at the universities, and certainly business and labor on it.

One VEPD coordinator heavily involved in career education efforts thought that what is most needed was an active, interdisciplinary council that represents areas other than vocational education.

VEPD Coordinators and Career Education Coordinators.--In addition to the VEPD coordinator, all States except Georgia had a coordinator for career education. Georgia's career education effort is so diffused throughout its State Department of Education that each staff member is encouraged to function in this capacity. The VEPD coordinator reports directly to the person responsible for personnel development for the entire department of education.

In most of the 11 States career education coordinators were found in State departments of vocational education, usually situated not far from the VEPD coordinator. In about half the States interaction between the two was frequent; in the other half, almost completely lacking. In one State, the VEPD coordinator also functioned as the career education coordinator.

In three States, career education coordinators are located in the Office of the Superintendent of Public Instruction. Recently, career education coordinators have been appointed by each of Colorado's three separate Boards: State Board of Education, State Board for Community Colleges and Occupational Education, and Colorado Commission for Higher Education, with an overall State coordinator responsible for the overall effort.

Diffusion of Career Education in the States.--There was no way to pinpoint the number of districts in a given State that are involved with career education. Some rough estimates were given: e.g., 75 percent in Georgia and 30 percent in Colorado.

Implementation ranged from crude beginnings to sophisticated levels of involvement. Oklahoma reported career education is starting here and there, in "out-of-the-way, God-forsaken places in the hills."

All States stressed the importance of community involvement in career education efforts. In Colorado the State's accountability law mandates citizen involvement. In its 1973 annual report, the Colorado State Advisory Council for Vocational Education noted that such citizen participation makes the State's goal of total implementation of the career education concept in all schools by 1979 realistic.

Lack of funding was seen to be the number one inhibitor to diffusion of career education in the 11 States. Funding for career education efforts comes primarily from vocational coffers, and vocational educators are nearing the end of the proverbial rope. Although most are highly supportive of the career education approach, they also tend to resist any further expenditure of vocational education funds. Typical of such opinions is the following:

> I don't think career education will go anywhere until such time as it gets special funding. If money is taken away from the top (skill preparation) to fund the others (awareness, exploration), the problem hasn't been solved, and that's what we're essentially asked to do. We've taken some funds, but we don't dare take any more because the total vocational education program is decreasing because of the demands of career education.

Cost-conscious legislators are simply not yet willing to invest public funds. Legislation for career education has been passed in only two States, although in most States resolutions supporting career education had been adopted by State boards of education. Lack of understanding and definitional confusion were seen as major inhibitors to legislative acceptance of the concept. As one VEPD coordinator explained it:

> I would say legislators probably don't understand career education and no staff is pushing it. Our superintendent is very supportive and we've had cooperation. But the legislature's general position is, nobody knows what it is and can't define it so we'll hold back. I don't have that trouble. They say there's a lot of confusion in Washington and a lot in State capitols but there's no confusion at the local district level where the kids are. The teachers are saying, "Just help me to do it."

Indeed, this general theme was sounded throughout most of the 11 states: career education is welcomed at the local level. Far less conceptual confusion was found than one might anticipate, given the general anxiety in many quarters about the definitional problem. Most interviewees view career education as a concept that had to permeate all levels of education rather than as a programmatic add-on component to a school's curriculum.

It should be pointed out, however, that most of the career education effort in the 11 States exists at the elementary level, where teachers with a generalist background more easily adapt to the concept. Most opinions confirm that the higher up the educational ladder one progresses in trying to implement the career education concept, the more difficult it is to achieve because of the increasingly compartmentalized system of education and the inhibiting nature of the disciplinary boundaries.

Career education coordinators tended to view the separate organizational structures for administration of vocational education shown in chapter II as primary inhibitors to diffusion of the broader career education concept. But a striking example of career education's potential for breaking down long-standing barriers is the fact that the first time the three administrative boards in Colorado's separate structure ever met officially was to discuss the task force recommendations for career education in the State. The positive effect of such coordination on local districts was reported as follows.

> When the districts saw the agencies jointly funding projects or even cooperatively working and planning with the local districts, it made a big difference. The grand canyon between the two agencies has been in existence for years.

Again, massive needs for inservice training were reported by career education coordinators. One interviewee speculated somewhat on its history and its future:

> We've all watched career education's first generation of life where there was a lot of flag waving, revolution was mentioned a lot, and remaking the American schools and that got everybody's attention. But now we're into a second generation and now we have to look at our research. We have to start evaluating, we have to be really serious about hard work. That's where it's "at"--staff development, teacher training, and curriculum development. We might move then into a third generation where some of the best of what we've learned can be fused with the emerging synthesis, with new priorities.

State Projects Under Section 553

Career Education.--As shown in appendix A, career education is a major thrust of the section 553 projects. The VEPD coordinator was frequently found to be heavily involved in efforts to diffuse the broad career education concept. In some States, such as Georgia, section 553 funding had advanced almost simultaneously with a strong movement to career education and thus had advanced the opportunity to meet new demands in personnel training. A vocational educator expressed his reaction:

> We really went at it, and this created a lot of problems--some having to do with our understanding of what career education is, some dealing with the fact that we had to change. Not only the vocational education people but the nonvocational education people, and those in the State Department and in the local systems. And career education created a need for teachers and leadership people to do things a little differently. So this automatically meant that we had a massive in-service training

For other States such as Ohio and Oregon, already well on the road with career education approaches and aware of the importance of personnel development, section 553 provided resources to begin more active work. Most States, in fact, said that without section 553 their efforts in career education would have been, as one respondent put it, "stymied."

Variation by State in teacher demand/need was reported. Some VEPD coordinators said they could not begin to respond to requests for information from districts:

> You get overwhelmed by demand for training. For instance, we give districts money to train 20 teachers over a nine-month period. But at the end of that period, they've tried to make the 553 money for 20 teachers extend to over 200 because they've had that kind of demand. Our problem is to get enough resources in there to provide the training.

Typical of the many positive remarks about the results of section 553 career education projects is the following:

> One of the things we're finding is that articulation is one of the best results of career education--between kindergarten and third grade, and junior high and high school, and postsecondary. We're beginning to see, for example, two vocational teachers and two mathematics teachers working together as in Grand Junction [Colorado], where they're developing a geometry unit as a team. And in Idella, a tiny school with grades K through 12 and only 25 teachers, they claim it's the first time they've ever sat down and discussed educational things together, and they're excited about it. I view career education as a real tool for curriculum revisions--now teachers have something really to hang on to.

Experience of all States that had been diffusing the "career education" concept over a period of several years suggested that understanding the concept was the essential ingredient--before curriculum could even be discussed:

> First, acquaint people with the concept. Teachers are being deluged with open education--pushed with reading programs, environmental studies. These things could all be combined in a program into the existing curriculum. An ideal career education program would be one in which a visitor would have to look for quite a while to discover it. I mean, it wouldn't be something tacked in the corner, it wouldn't be an add-on, it would be the total program.

Special Needs Emphasis.--Needs of special groups--ethnic minorities and handicapped--were given major emphasis in several section 553 workshops. Many of the career education projects are targeted to ethnic minorities. For example, Georgia's Coordinated Vocational Academic Education (CVAE) project is designed to provide underachieving students 14 years of age and older with motivation to see the relationship of abstract skills to learning. The teams meet regularly to coordinate their particular discipline or field with the occupations in which the students are engaged. In 1973 over 6,500 students were served by these programs and some success has been reported:

> There's no doubt that the CVAE program has affected the dropout problem in a number of school systems. We have tried to determine whether CVAE has made a difference, and I don't think there's any doubt that it has. It hasn't conquered the problem but there are a lot of kids who are staying in school and who are changing their attitudes about themselves and others as a result of the CVAE program.

New positions of CVAE coordinators have been created, usually filled by a teacher in a school having such a program. Persons so employed must attend a 6-week, graduate-level, summer school session and complete a specified internship course during the first year of employment. The training is described as intensive:

> The CVAE coordinator is trained in the nature of the learner, the disadvantaged, or handicapped kid. Why is he like he is? What makes him tick? What are his outlooks? The coordinator

> is also trained in group guidance and counseling techniques. He's not going to be a therapist by any means, but these kids require a tremendous amount of individual attention. He's trained in work cooperative types of experiences because he has to get his students placed in work situations. He's also trained in team-teaching techniques. But just because he's trained doesn't mean that everything's going to be rosy when he returns to his local school.

One project in an Oklahoma poverty area was geared to work with potential dropouts in grades seven and eight. Teachers in the construction, mechanical and home economics clusters are being trained to relate to English, mathematics, and social studies teachers. Reportedly, students are excelling and do not want to return to traditional classrooms. Oklahoma also had the only project geared to special needs for teachers of native American Indian students. The workshop included VEPD coordinators, teacher educators, secondary teachers, and vocational leaders from the top 19 States with the highest Indian population.

A major problem in providing vocational education for the handicapped was one of identification. As one VEPD coordinator put it, "We've screened these people out for so long, it's been a difficult problem." But all States were attempting to identify the inherent problems.

> What we're trying to do is to train people to recognize students with learning disabilities and adapt any difficult part of the program to meet the needs of this particular student without saying, "You have to go down to a special class." What do you do? How do you adjust your curriculum in your shop to fit these students without affecting what you're doing for the others?

The development of a college major combining vocational and special education found in New Jersey is believed to hold great promise for the future. An increasing philosophy in special education to include vocational education for the handicapped has been reported.

A major unresolved problem across all States is the recruitment of minority persons into vocational education positions, and little, if any,

involvement of community-based paraprofessionals has been found. Typical of interviewees is the following comment:

> We have a lot of paraprofessionals in basic education and ESEA, but not one in vocational education. It's a funding problem. I don't think we've dealt with the lack of paraprofessionals in any way in the vocational field.

Many spoke of the difficulty in training personnel to be sensitively tuned to the needs of the urban disadvantaged. This was especially true of projects in large urban areas, where as one coordinator said, "For students here vocational education isn't much of an issue because they're so intent on surviving, making it through school some way--any way." But most thought that section 553 had helped in changing attitudes.

> Of course a lot has changed. One, I think our view on being humanistic has changed. Second, the courts are forcing us to become humanistic, whether we like it or not.

As nearly as can be determined in the 11 States, few section 553 funds have been expended on the special needs of women in vocational education except through attendance at EPDA-sponsored workshops that had such a focus.

Administration and Supervision.--Another major emphasis of section 553 projects is administrative and supervisory training. Often, it was discovered that when teachers and counselors went back to their school systems after section 553 workshops, enthusiastic about concepts learned, lack of administrative support was a primary inhibitor to implementation in the classroom. To meet this need, several States used section 553 funds to provide occupational awareness training for principals. Illinois accomplished this by working through its Elementary Principals' Association, which has a membership of approximately 3,500.

A 1-day workshop for principals was held in each of seven regions and the turnout was reported to be about one-fifth of the total membership.

In Oklahoma, 100 secondary school principals were given a course in vocational education in a 3-day period; such training was well received.

> They [the principals] didn't know what we [vocational educators] did; they didn't know what the various Vocational Education Acts were for. But in that three-day period we created some understanding and enthusiasm. Since that time we've had many calls to participate in career days, to come talk to Chambers of Commerce about vocational education. Sometimes a teacher, in welding, for instance, can't be the one who talks about vocational education to the faculty. It takes an outsider.

In Illinois almost half the section 553 funds have been spent on leadership programs using a competency-based approach that is developed with input from students. To date, there are 66 graduates of the program.

Business and Industry Involvement.--All States reported difficulty in effecting the type of arrangement originally conceived in the section 553 legislation whereby there would be an actual exchange between business and industry staff and classroom teachers. Teachers were willing to go to industry, but there was difficulty in getting industrial people to leave their positions for more than a short time because people from industry frequently felt fearful and insecure in classroom situations. However, teachers in some States were often able to arrange liaisons so that all through the year industry people came to classrooms for brief periods of instruction. One VEPD coordinator reported, however, that almost every teacher sent to industry was offered a job and had been revitalized by the experience.

One section 553 project in Georgia, the Program of Education and Career Exploration (PECE), reported "massive"needs for inservice training. Eighteen coordinators were trained in 9-week summer programs, with accompanying internships during their initial year of employment, to supervise the activities of the 7th, 8th, and 9th graders in 130 PECE programs that sent students to businesses for extended exploratory work experience. A survey of the industrial people that had accepted PECE students showed that 95 percent would accept students the following year.

In another section 553 project teachers were being trained for role-playing labor and management dispute situations with students:

> We actually have exercises where we represent management and labor. We have labor/management disputes. We have laborers, they go on strike, and they actually have maybe arbitrators come in and settle the "strike." This is done with 7th and 8th graders to give them some feeling--something more than just recognizing machinery. They've got to work with all kinds of people.

Counseling.--Most of the States had used section 553 funds in an attempt to bring to the counseling function a more positive attitude toward vocational education. Counselors were sometimes combined with school administrators and local directors of vocational education in training workshops.

Certification.--One section 553 effort was to work on changing certification requirements for counseling; Oregon focused strongly on certification. In Colorado efforts are being made to redefine existing programs so that all counselors will be exposed to career planning and development.

Many section 553 certification efforts are directed to improving methods for certifying teachers from business and industry. Connecticut, for example, uses section 553 funds in a unique procedure where teachers are supervised during

their entire first year of teaching while taking courses for credits toward a B.A. degree. In Illinois, the State Certification Board has agreed to alter requirements on a temporary basis for graduates of a developing competency-based administrators' training program. It is anticipated that this pilot project will result in permanent change in certification requirements for vocational administrators.

The 11 States have made no change in their certification requirements for general school administrators, although all the States mentioned this as a major need. Oklahoma has made some attempt but admits that any change has to come from professional standards boards.

Most States simply identify the critical need for change in certification requirements and admit the difficulties inherent in the attempt. As one State Director of Vocational Education put it:

> I think all teachers, even academic, should go through a vocational course and should know about the world of work. But to make a change in certification requirements is very complex. Our Advisory Council in certification is a very conservative group of people with various academic backgrounds and changes slowly. This group has to act on it; that group has to act on it--and time is lost.

Curriculum.--A major result of section 553 is the national network of 11 curriculum centers designed to eliminate unnecessary and costly duplication of materials for vocational and career education. Before 1972 there was no system for sharing curriculum materials on a nationwide basis. Four of the 11 States--California, Illinois, New Jersey, and Oklahoma--now serve as coordinating centers for the network. Illinois conducted a first-of-its-kind National Curriculum Diffusion Seminar--an attempt to disseminate national abstracts of some 474 curriculums. Uniquely, for this purpose Illinois used its own funds to benefit all States by (1) paying expenses of training participants from all States and Trust Territories, and (2) developing and distributing nationwide the annotated bibliography.

EPDA's section 554 encourages States to use part of their section 553 money for such projects. Table 7 shows the amount set aside in 11 States and the percentage distribution of the section 553 funds for one State.

Table 7.--Percentage Distribution of EPDA's Part F, Section 553 Funds for Familiarizing Teachers With New Curricular Materials as Authorized by Section 554 (Fiscal Year 1973)

State	Percentage distribution of section 553 funds	Section 554 dollars set aside (in thousands)
California	10.8	$140,500
Colorado	1.2	15,200
Connecticut	1.4	18,700
Georgia	2.9	37,800
Illinois	3.2	41,900
Minnesota	2.3	29,300
New Jersey	1.9	24,800
North Carolina	4.0	15,700
Ohio	3.7	48,500
Oklahoma	1.0	13,100
Oregon	1.1	14,200

Note: Numbers have been rounded.

Individualized Instruction.--All of North Carolina's section 553 money centered on an attempt to provide teachers with training in individualizing instruction for students within the interdisciplinary team approach. Generally, such teams consisted of five occupational and two academic teachers, relating on a one-to-one basis.

A unique example of individualized instruction is the correspondence course programs set up by Rupert Evans and reportedly the first of its kind fully accredited by the University of Illinois. Television broadcasts provide training for individuals in hard-to-reach districts.

But in at least two States what was emerging as a new focus was an emphasis on training directly related to that identified by the individual educator as his own specific need, rather than standardized group training. This type of approach has been called "the wave of the future."

Minnesota has been experimenting with this approach. A Minnesota State College instructor who was exploring such individual needs at post-secondary institutions where reportedly 2,500 to 2,800 nondegreed vocational teachers are employed, said:

> You know, we even have to get permission from the Board of Regents to individualize instruction. EPDA helped us through the first hurdle, which was to put a staff member on at the university to do this; they can't budget a staff member. This will enable them to put somebody on to prove the concept to central administration and the Board of Regents that here's a need and it will work. It'll take most of the first year, I suspect, just to justify his existence. How you eventually get that subsidized and financed we don't know. But that doesn't mean it shouldn't be.

The rationale was that in the process of such individualized personnel development, some commonalities or deficiencies might be identified so that assistance would not necessarily have to be provided on a one-to-one basis; small groups with similar needs might ultimately be combined. Also, some spin-off effect to other teacher educators was anticipated from this effort:

> If a vocational education teacher goes out to maybe 50 or 70 teachers periodically, he's going to pick up a lot of new ideas and take them to other teachers. He'll be exposed to things that teacher education should have exposed him to but never did. Teachers have been isolated.

This attempt is closely akin to Oregon's field-based approach to personnel development. There, the technique of individualizing instruction is applied to live classroom situations; potential community college teachers are recruited from business and industry and learn teaching skills in actual classrooms.

Specific Vocational Fields.--It was difficult to extract how much emphasis has been placed on specific skill development. Certainly, much of the training has been given to updating obsolescent skills, but the current training emphasis appears to be on developing cluster approaches or commonalities across fields. The largest number of specific field projects appears to be in the health category where shortages are reported to be large.

Connecticut found that one of the major problems vocational teachers were facing in teaching skills was the low level of reading ability of students; students could not understand manuals or texts. Using reading specialists, section 553 provided training in summer institutes and through clinical experiences.

Strategies Employed in Personnel Development Through Section 553

Interdisciplinary Approach.--One of the most effective strategies employed in section 553 training appears to be the interdisciplinary approach and this was one of the strongest themes of section 553 in all 11 States. Although it is often referred to as "multilocking" or "interlocking," there seems to be little confusion regarding its meaning. The interdisciplinary approach means bringing together for training purposes different combinations of people to work together in relating their individual areas of expertise. There is great diversity in the combinations. The closest adaptation of the original Richmond [Calif.] Plan concept is the Georgia Coordinated Vocational-Academic Education Program; but in every State some adaptation of the interdisciplinary approach was found. Minnesota is attempting to involve both vocational and academic personnel in a systematic, articulated fashion. The strategy of summer workshops there

is increasingly moving toward bringing in representatives from all levels to foster improved communication:

> One summer we just had elementary people--teachers, librarians, counselors, social workers. One summer we just had secondary-English, social studies, vocational, counselors, administrators. But when we started having K through 12, we always had them come in teams. The use of teams has been a real key. We've had elementary communicating with junior high; junior high with senior high; senior high with college. Teams have really been the most successful way. People really do seem to appreciate communicating with one another, and they get out of their subject matter orientation when they are in a team relationship talking about kids. Then when they go back, they have their own support group. They're not just individuals who are trying to impact the system and they have a much better chance of bringing about change. I think that whole thing--across the level lines--has really brought about some change that is healthy.

Curriculum.--Adaptation of curricular materials by teachers to their individual needs was seen as a necessary strategy. But the usefulness of the materials developed appeared to be that they were not viewed as divorced from a teacher's current practice. Nor did it mean that the most important change--attitudinal--would occur.

Incentives.--The importance of offering incentives for training is consistently stressed. Training courses are generally credit courses; attendance at inservice workshops also earns credit and generally units for certificate renewal. In terms of interdisciplinary efforts, new credits have been developed in some States:

developed in some States:

> We finally have interdisciplinary course numbers so that when teachers take the course for credit, it isn't a vocational credit. This has eliminated some of the barriers.

The same necessity for regular team meetings and released time found in the Richmond Plan evaluation were identified in the Georgia CVAE project:

> One of the keys to CVAE is the team approach. Now this is where a problem arises because it does take time, first of all, to get teams to meet regularly. Just the concept of team teaching creates problems. And we haven't been 100 percent successful by any means.

The Georgia approach, however, has been to insist on requirements for school systems and incentives for teachers. Results to date have been encouraging.

Priority of Training Needs.--In terms of career education, the evidence on who needs training more is divided almost equally between vocational and academic educators. A remark typical of those who view development of vocational educators as more critical is the following:

> It goes back to interdisciplinary education. Vocational teachers have some areas of expertise that no one else in the school system has. For the most part, they're the only teachers who have honest-to-goodness work experience outside of education. Second, because of the nature of vocational education, they've had to work with the community, with Advisory Councils, and with high officials. OK, they really have not used that input in the total development of career education, so I see that application of a teacher's total knowledge is one of the big things vocational educators need to do.

Those who see training for academic educators as more important think this way:

> I'm concerned that in our staff development we're putting much more emphasis on the development of the ability of vocational teachers to teach than we're putting on the development of the general education teachers to deal with the career orientation. Yet this is a natural result of the way we're funded. If I

could suggest an improvement in EPDA legislation, it would be to pay more attention to the bringing in of all the academic and general education teachers.

Curriculum, as a strategy for implementing career education, was given weight but rarely was evidence found that new curriculums could be successfully installed without accompanying inservice training.

University Involvement.--One of the most significant effects of the section 553 program appears to be the extent to which it has increased involvement of universities with inservice activities and at the same time has been responsive to needs of local educational agencies.

The State of Georgia has used section 553 funds to expand its traditional relationship with the University of Georgia to two additional institutions to accommodate regional needs better and to diffuse its career education thrust further:

> We used our 553 money to establish what we call career and vocational centers; they are a concept. We set them up at the University of Georgia, Georgia State, and Georgia Southern. . . . The idea here was that if we wanted to push career education, if we wanted to expand our in-service training beyond what we had done in the past strictly with the University of Georgia, and if we wanted to follow the career education concept with an interdisciplinary thrust across all subject lines within the college of education, we needed to do it on a pretty large scale.

There can be little doubt that section 553 has enhanced the coordination between State departments of vocational education and institutions, but in terms of career education the diffusion is only beginning. One VTPD coordinator expressed it this way:

> We're going to have to change the colleges of education. And that's why I say it's going to take some money and some information.

Public Law 90-576
90th Congress, H. R. 18366
October 16, 1968

An Act

82 STAT. 1064

To amend the Vocational Education Act of 1963, and for other purposes.

"LEADERSHIP DEVELOPMENT AWARDS

"SEC. 552. (a) In order to meet the needs in all the States for qualified vocational education personnel (such as administrators, supervisors, teacher educators, researchers, and instructors in vocational education programs) the Commissioner shall make available leadership development awards in accordance with the provisions of this part...

A true educator is fully aware that the objectives of his profession are enlightenment and growth of the student. Therefore, in any educational program the important question to be addressed is: What effect does the program have on its students, both as participants and as graduates entering a society of need?

Given the needs for leadership in vocational education to assist in resolving the issues presented in chapter II, the unique programs created under EPDA's part F, section 552, assume great significance. The demand for diffusion of career education throughout some of the Nation's school systems has only added another dimension of importance.

Section 552 originally provided opportunities for 3-year doctoral studies in such areas as administration, supervision, teacher education, research, and curriculum development. Initially, there was difficulty in locating an adequate number of institutions that were offering, as the legislation suggests, a "comprehensive program in vocational education

with adequate supporting services and disciplines." But in 1970, the 11 institutions listed in table 1 were selected to conduct doctoral programs that would prepare awardees for leadership roles. In 1973 the 3-year program was reduced to a 1-year leadership development program, not necessarily degree oriented.

Although there was some diversity among the 11 institutions in specific objectives for section 552, common threads tie them all to the overall objective of the legislation to provide section 552 awardees with the professional knowledge and competencies necessary to assume an aggressive leadership role in vocational education.

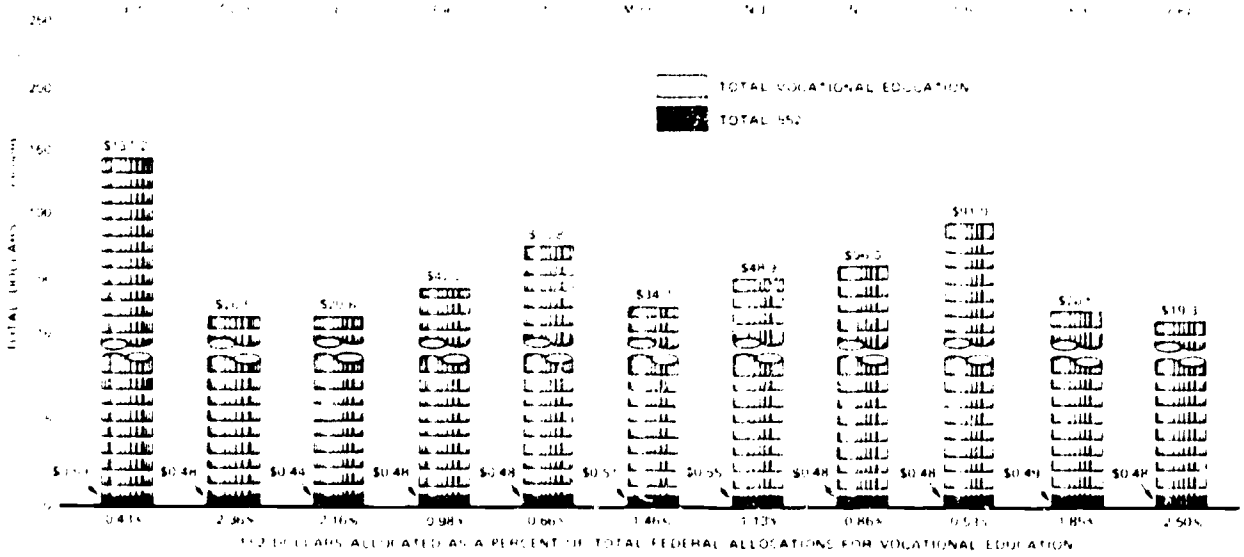
The findings in this section are derived primarily from the experiences of section 552 awardees, program directors, faculty, deans, and peripheral personnel as they implemented the section 552 program at the 11 institutions. Both 1- and 3-year awardees were interviewed as well as observed on the job. A major focus of this chapter is the outcomes for graduates of the 3-year program who, at the time of this study had been working in the field for a period of at least 1 year.

Funding

In contrast to the usual Federal pattern of channeling funds through State departments of vocational education to institutions of teacher training, section 552 funds went directly to the 11 institutions. For each awardee the institution was allowed $2,500 per academic year, plus $600 for a summer program. The section 552 awardees were allowed stipends of $4,200 per calendar year, plus $500 for each dependent. Total funds, shown in figure 1 as a percent of total Federal allocations for vocational education in the 11 States, enabled both institutions and awardees to advance their capability for providing leadership in vocational education.

FIGURE 5

TOTAL FEDERAL ALLOCATIONS TO STATES UNDER EPDA'S PART F, SECTION 552, SHOWN AS A PERCENT OF TOTAL FEDERAL ALLOCATIONS FOR VOCATIONAL EDUCATION (FISCAL YEARS 1970-73)



There was variation in the use to which the institutional support funds were put. In a few institutions, section 552 directors were able to obtain all support funds for program operation and thus to provide additional student benefits. In some institutions where this was not possible, concern on the part of both program directors and students was noted. One dean explained the use of program funds for university budgets external to the section 552 program in this manner:

> The 552 program has provided us with a measure of the flexibility that we've lacked because of the dead-level enrollment situation. What we've done is use the 552 money occasionally to backstop on a short-run basis where we've needed flexibility to get things going that were related to the program. It's been a godsend because it has provided this flexibility that

we wouldn't have had otherwise. We've tried to pump a big chunk of it back into what was going on and next year our plan is to keep it all directly related to the vocational education effort. But it's been vitally important to us; it has given us the capacity to solve problems.

This variation in the use of funds often became a source of irritation to the section 552 awardees as a network of communication developed among them. In some of the section 552 institutions, numerous complaints were expressed about being denied the external opportunities and supporting services found in other institutions. Yet, at the same time, they were developing understanding of the nature of budgetary arrangements. As one section 552 graduate said:

> Another variation we saw among the different programs was the manner in which conferences, workshops, and outside speakers were offered as enrichment. Some programs did some really fantastic things but others were rather lacking in this area. A lot of this seems to go back to funding, which in turn goes back to how a university is structured. Some schools have real departmental cooperation, others none.

Generally, section 552 directors tended to view this use of program funds as another indicator of the lower status of vocational personnel development within the university's range of priorities. As one section 552 director said:

> I'm critical of some of the things we've done here and I guess I'd say the most useful thing for the future would be for USOE to say "We want an operational budget submitted on how you're going to use these funds." Then there would have to be some final check to see that the funds were, in fact, committed back into the program and not siphoned off by some institutional power for other programs.

In a few of the institutions the section 552 program was found to be associated with changing patterns of funding for vocational staff development generally. Whereas these institutions in the past had allowed Federal dollars to subsidize 50 percent or more of teacher-training programs in vocational education, university budgets now pick up the difference. In

some States contracts between the universities and the State departments of vocational education now specify extra services provided by the institutions. Although in a few States this change had occurred prior to the initiation of section 552, in others deans suggested that the performance of the section 552 program had tended to increase the university's commitment to personnel development in vocational education.

Program Administration

Section 552 Directors.--Program directors in all institutions were selected from among the ranks of existing staff: two were directors of vocational education, one was dean of a college of education. Codirectors were found in three States, but in the others the program was administered by one person. Most directors had an extensive background in vocational education, although two had come originally from the counseling field. Females and minorities were not represented.

Most section 552 directors had graduate students as program assistants or program coordinators, but a few had almost no help in administering the program. In Oklahoma where there was only a director, section 552 students suggested that the director have an assistant even if creation of such a position meant giving up a student slot:

> It's too much to expect of one person to supervise 41 people, get them enrolled, meet their individual needs, meet full load classes, supervise internships, and carry on and on. I know that all of us at one time or another have expressed our frustration because a particular minor point wasn't met. It wasn't a fault of anything except time available. If there is any way possible to build some kind of help into the program, it should be done--even to the point of cutting out an EPDA student position.

Location of Program Within Institutions.--Some diversity was noted in the location of the 11 programs within the universities' organizational structure. In 7 of the 11 institutions the section 552 programs were housed within either divisions or departments of vocational education in schools of education. Two were in university graduate schools, and one was located in the college of humanities.

Only 3 of the 11 institutions had departments of vocational education before 1962. Two of them offered doctorates in the field prior to 1962; UCLA and the University of Georgia. UCLA's doctoral students, however, were primarily part-time enrollees.

Within this changing context the 11 section 552 programs were initiated in the summer of 1970. The consensus among section 552 program directors, deans, and faculty was that section 552 had come at an opportune time to provide additional incentive and direction for what they were already attempting to do. Rutgers (the State University), for example, invited representatives from various disciplines to discuss with vocational educators the creation of a comprehensive doctoral program in December 1965. Authors of the working papers were asked "to relate the contributions [their] discipline could make to the preparation of future vocational leaders." In one of the papers presented, the director of the Rutgers section 552 program had said:

> . . . the problem demands an imaginative and innovative approach of an interdisciplinary flavor to find an appropriate solution in a field entrenched in highly traditional and badly fragmented doctoral-level programs now in operation in various universities. The present traditional pattern emphasizes the doctorate major in specific areas of vocational and technical education . . . and not a unified approach to the total problem of man, education, and work. . . .

All section 552 program directors agreed that their respective departments would have proceeded with ongoing directions to more comprehensive graduate programs, but that section 552 had enhanced their efforts. One director, in fact, said that if accepting the section 552 program meant that his university had had to change its operation, it would not have accepted the grant.

Another dean, however, reported initial hesitation at accepting the funding:

> We had such a traditional staff and our program was so outmoded that we really hesitated in taking Federal money in what we were afraid might be a wasted effort.

In describing another institution, a section 552 director said:

> They [vocational educators] were looking for some instrument, some push that would enable them to consolidate. For example, home economics was in the College of Economics, agriculture was in the College of Agriculture. . . . Vocational courses were scattered all over the campus with no unification at all. It was most difficult for a student to say "I really want my doctorate in a broad area of vocational education." I think the EPDA funds gave them some push.

One student offered this view:

> I think that you will see that in some institutions the program was already strong and ongoing. In such institutions the EPDA monies had the effect of enlarging the program, of getting more people through them, and of drawing on a pool of high quality people who were interested in continuing their development into leadership positions. On the other hand, in institutions where the programs were in their infancy and still developing, the EPDA programs were used as a vehicle for creating and improving programs.

The Faculty.--For the most part, faculty members within and outside vocational education departments were willingly involved. In some programs the entire faculty of the university was available to students; in others

the faculty was limited mainly to department of vocational education staff. In the 11 programs faculty advisors to the doctoral students ranged from one common advisor to an interdisciplinary mix like that found at the University of Connecticut. Participants there had an "advisory committee" composed of three or more faculty members, at least one of whom was required to be from outside the department. The success of this setup is shown by the following remark:

> I think the EPDA program here has capitalized on a lot of things that were already present, and we've added our own dimension within the department. I think that to a large extent what's happened in our department is also happening in the school. For instance, it used to be that all the advisors for the doctoral program would have to come from this department, but we now don't allow that. Students have to have at least one advisor from outside the department or even outside the school, so there's a kind of intermix that takes place among the professors, and it's a very healthy kind of situation. Advisors get to know the students and the students get to know them, and a kind of camaraderie exists.

Advisory Councils.--Ten institutions had section 552 advisory councils. (Council composition is shown in table 8.) In Minnesota it was felt that a special advisory council was not necessary because the advisory committee for the department of vocational and technical education (composed of representatives within and outside of the university), the elected policy committee, and a graduate studies committee of the department would provide sufficiently comprehensive input.

No community or lay citizenry served on these councils. Business and industry were represented on two councils, as was labor. However, in only one institution was there a representative from both of these areas.

TABLE 8. EPDA's Section 552 Advisory Committee Members
Representation by Educational Level or Area of Interest

Representatives from	UCLA	Colo. State U.	U. of Conn.	U. of Ga.	U. of Ill.	U. of Minn.	N.C. State U.	Ohio State U.	Okla. State U.	Oregon State U.	Rutgers (N.J.)	Total
State educational agencies	2	1	4	0	2	--	2	0	2	4	1	18
Institutions of higher education	4	6	2	7	10	--	1	8	10	10	1	59
Postsecondary institutions	0	1	2	0	1	--	1	0	0	2	0	7
Local education agencies	1	1	1	4	2	--	0	0	0	1	2	12
Educational associations	0	0	0	0	1	--	1	0	0	1	0	3
Business/industry	2	0	0	0	0	--	0	0	0	0	1	3
Labor	0	0	1	0	0	--	0	0	0	0	1	2
Community	0	0	0	0	0	--	0	0	0	0	0	0
Total	9	9	10	11	16	--	5	8	12	18	6	104

Local education agencies were represented on seven councils; members were usually district directors of vocational education. Five councils had representatives of postsecondary 2-year institutions. The largest representation came from institutions of higher education; only one council included a section 552 awardee in its members. The second largest representation came from State educational agencies, often including a member of the State advisory council for vocational education and frequently the VEPD coordinator.

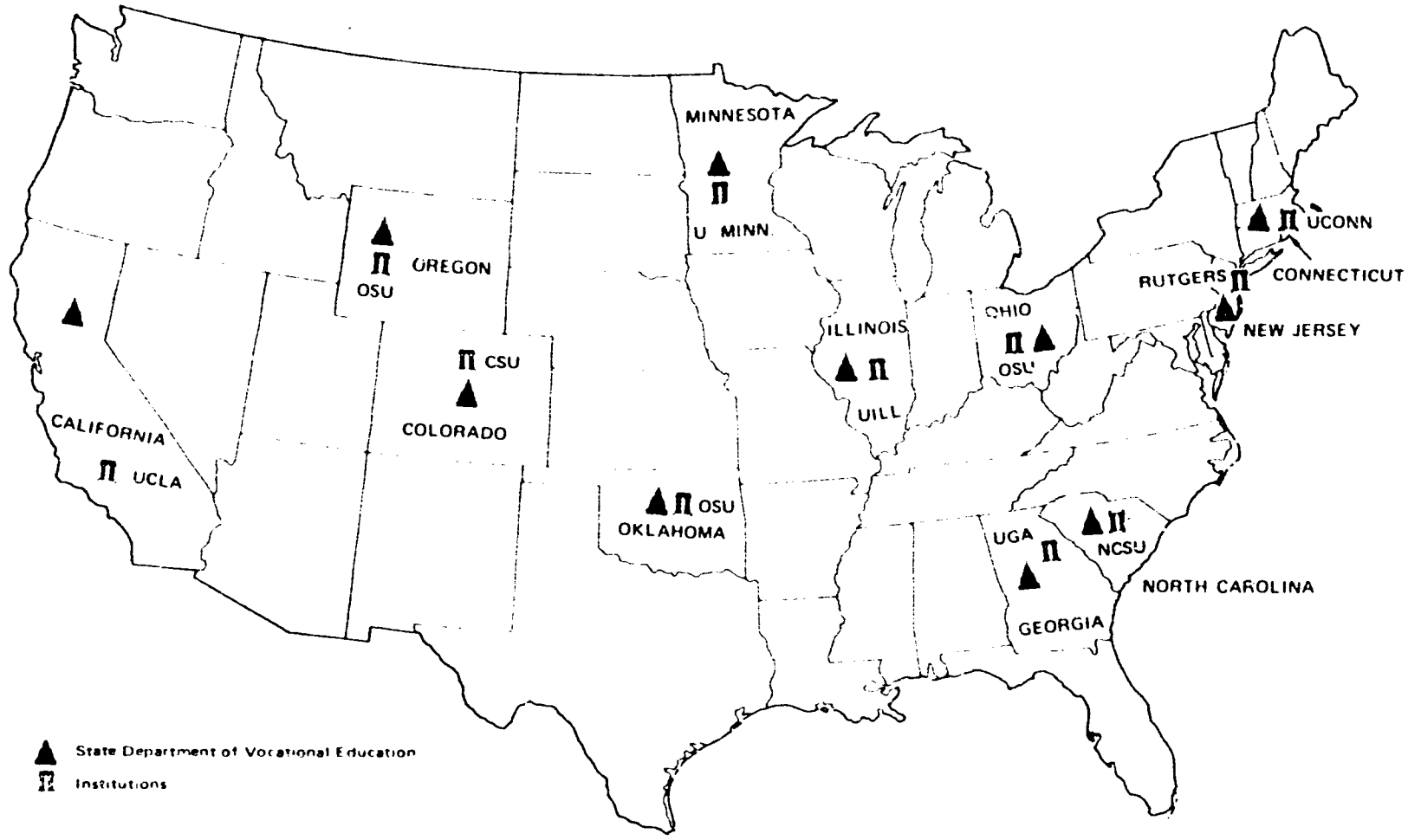
Linkages With State Systems

In addition to the VEPD coordinator's membership on the section 552 advisory council in some States, there were other linkages. Figure 6 shows the proximity of the 11 institutions to their respective State departments of vocational education. Where institutions and State departments were in the same city, communication and interaction were easily achieved. In Oklahoma, for example, members of the State department of vocational education hold faculty appointments at the university and there is frequent interchange of ideas and programs.

Regardless of the relative proximity, however, in all but two States VEPD coordinators, section 552 program directors, and other interviewees agreed that coordination between State departments of vocational education and universities had been significantly enhanced through interactions with both of the EPDA's part F programs. In terms of personnel development, these relationships prior to initiation of the programs were generally as described earlier: supportive but within the context of segmented field areas. What is of more consequence than the improved coordination is the new level of comprehensiveness that sections 552 and 553 brought to these interactions.

FIGURE 6

GEOGRAPHIC DISPERSION OF EPDA'S PART F, SECTION 552, INSTITUTIONS AND THEIR PROXIMITY TO STATE DEPARTMENTS OF VOCATIONAL EDUCATION



Selection and Characteristics of Section 552 Participants.

Major responsibility for selecting section 552 participants was given to State departments of vocational education. Each State was allowed a number of awardees in proportion to its population and vocational enrollment. Nominees were reported to the U.S. Office of Education (OE), and OE assigned the awardees to the 11 section 552 institutions.

Table 9 shows an example in two States of how section 552 met the legislative intent to obtain a wide geographic dispersion of participants. The total 3-year participants came from 47 States and 2 territories.

Table 9.--Geographic Dispersion of 3-Year Program Participants in Two Selected Institutions

Univ. of Connecticut Participants		Univ. of Minnesota Participants	
Origin	Number	Origin	Number
Connecticut	5	Minnesota	9
Maine	2	Arizona	2
Maryland	1	Idaho	2
New York	2	Louisiana	1
Rhode Island	1	Michigan	3
Vermont	3	Missouri	1
Massachusetts	1	New York	2
Puerto Rico	3	North Dakota	1
Guam	1	Ohio	1
		Texas	2
		Wisconsin	2
		Puerto Rico	1

Source: Final reports of section 552 programs

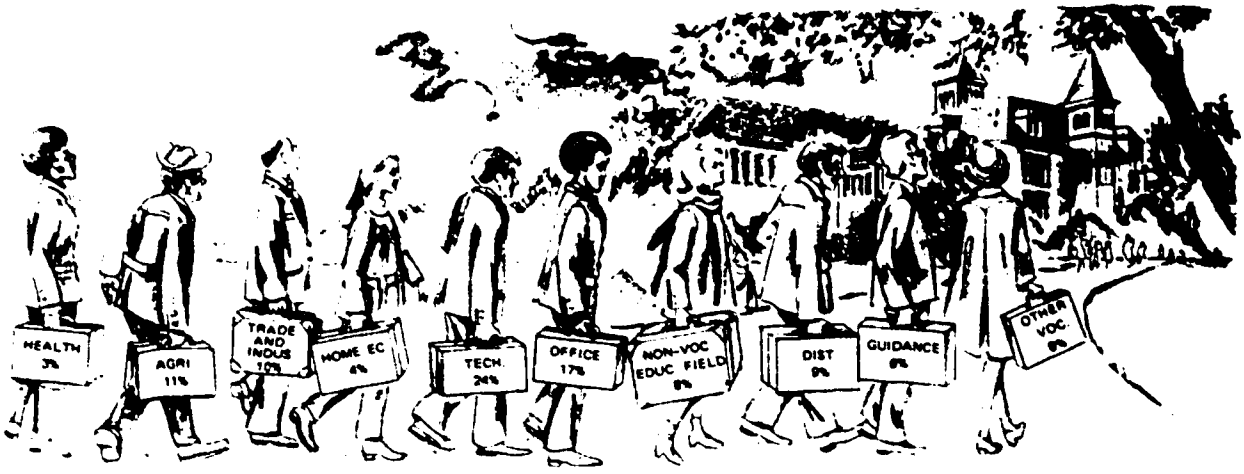
About half the students interviewed in the 3-year program described their selection process as well planned and orderly; the other half said it was "hectic and rushed." A unique example of accommodating to the difficulties inherent in the selection process was found in Oklahoma, where the director was able to assemble all awardees on campus in June of 1970 for a summer orientation to the program. In contrast, across all 11 universities there was near unanimity among participants in the 1-year program that they had taken risks in terms of leaving jobs, moving families, and selling their homes. Many 1-year students speculated that the uncertainties involved in accepting the award had meant that candidates for the award were limited to those who could take the risk, and therefore some potentially able leaders could not afford to apply for the grant.

Eligibility for the section 552 program was limited to candidates who met at least one of three requirements set forth in the legislation:

- Have not had less than 2 years of working experience in fields related to vocational education
- Are currently employed or reasonably assured of employment in vocational education and who have completed a baccalaureate degree program.
- Are recommended as having leadership potential in the field of vocational education and are eligible for admission as graduate students at an approved institution of higher education.

A total of 160 participants had entered the 11 institutions by the fall semester of 1970; 77 replacement slots were filled as original entrants completed the program or dropped out.

As shown in the sketch below, the largest percentage of the 3-year participants came with backgrounds in the technical field, followed by office, agriculture, and trades and industry. Eight percent came from nonvocational education areas (e.g., administration, academic teaching).



Awardees from agriculture dropped to 6 percent of the total entering group, those from consumer and homemaking tripled, and those coming from nonvocational fields doubled.

Eighty-five percent of the total 3-year participants were males and 15 percent were females. Only 7 percent were from ethnic minority groups. In contrast, in the 1-year group of 193* awardees entering the program in the fall of 1973, minority group enrollment increased by 5 percent and the percent of females more than doubled. (In Colorado there were actually more women than men in the 1973-74 program.)

Across the 11 institutions, median age at entry was 36. In some institutions the age range was from 25 to 46 years. Although age data are not available for all 1-year awardees, in general the median age appears to have dropped below that of the 3-year participants. At Rutgers,

*Does not include Connecticut.

for example, the median age of the 3-year group was 36 years; that of the 1-year group was 33 years.

Program Content

Internships.--For the 3-year students, the most valuable aspect of the program was the internship that four of the institutions offered for the first time. In terms of length of time, location, and area of concentratio this experience varied somewhat from institution to institution. For some, the internship was directly related to their area of interest; for others, it was in a new field and designed to be a broadening experience.

Interns worked in all levels of the educational system: OE, a congressional office in Washington, D.C., manpower programs, and unique settings such as neuropsychiatric institutes and schools for crippled children.

Some awardees felt that the internships offered a more up-to-date involvement with the current problems facing vocational education than did the course work. One student, for example, helped in the development of an innovative correspondence course in leadership development. Typical of their comments are these:

> I was able to get administrative experience and university teaching through the internships. I worked with a dean of the community colleges, and the community college division of the State Department of Education.

> Coming from a rural state [Montana] I was able to get a first-hand look at the problems of people working on vocational problems in urban areas. Experience in Columbus, Ohio, gave me a great perspective.

Again, interactions between State departments and institutions were improved through many section 552 internships in State departments of vocationa education across the Nation.

Because of the short length of time to complete their fellowship, 1-year students tended to be less satisfied with the intern experience In institutions where credits for internships were not given, some dissatisfaction was noted.

In the main, however, for both groups of participants the internship was seen as the most successful aspect of the program. One dean worded his reaction this way:

> Education takes place in a lot of settings. For instance, the experience of our agriculture educationists. For a long time they have found ways to help communities and meet needs that weren't so directly bound up in the public school. I don't want us to limit ourselves to what can be done through the traditional public school but rather to find new attacks-whether it's in hospitals or working with industry, or whatever it may be. This is where the experience of the VOTEC people is ahead of our other departments.

Group Interaction.--The 3-year awardees viewed group interaction as the second most highly valued aspect of the program. The 1-year participants also seemed to share this view. Most said that the diverse backgrounds that participants brought to the program tended to be a valuable learning experience. Exchanges among awardees from different fields within vocational education as well as exchanges among those from nonvocational fields were seen as broadening. Furthermore, in some institutions the wide range in age distribution was seen as a benefit. In discussing the effects of this group interaction on the program, one section 552 participant said: "I think we contributed as much as we got." And one dean remarked:

> Well, I have always had a concept that students can transcend the limitations of their teachers. That is the nature of the progress of society. If the students couldn't do that, we would have an automatic ceiling on civilization. And I say we all are limited on this faculty (just like any other faculty),

but if the students get some ingredients from the mixture of people that we are, we are giving them something that transcends what any one of us individually can give.

Courses in Nonvocational Fields.--The third most valued part of the program for the 3-year participants was the course work taken in fields other than specific vocational education; e.g., sociology, psychology, administration, curriculum. Most awardees, of course, had backgrounds in specific vocational fields and appreciated expanding their knowledge in nonvocational areas. Typical of comments on expansion of knowledge was the following:

> I had 13 years experience teaching vocational subjects in secondary schools and four years as a teacher educator, so that when I came into the program, I was looking for a broader selection of courses. And I got some--economics, sociology. I think that if you are trying to develop leadership in vocational education you need to know about societal changes, including public policy on vocational education, to face the issues now confronting leadership in vocational education.

In contrast, many of the 1-year students regretted that in the pressures to fulfill requirements and complete internships and course work there had not been enough time to take courses outside their specific area of interest. From both groups there were several negative comments on the seeming difficulty in cutting across some of the departmental rigidities to take nonvocational courses in other departments.

Courses in Specific Vocational Fields.--The extent to which the content of the course work in specific vocational fields changed from that given before initiation of the section 552 program cannot be determined. Generally, however, there seemed to be a feeling among the 3-year graduates that no significant content change had occurred. In the main, this view was shared by the 1-year participants.

Whatever change had occurred in the actual content of the specific field courses appeared to have come as much from the participants' cohesive action as from faculty initiation. As one graduate said:

> I think the EPDA group had a tendency to challenge the faculty, to keep them on their toes. This type of interaction between the participants and the faculty undoubtedly changed course content within the operation of the course itself.

For those who came into the program with little knowledge of vocational fields other than their own, however, benefits were expressed about their exposure to the other vocational areas. Many comments were like the following:

> I came from Connecticut vocational schools, which are very much trade oriented. I had no idea that vocational education is as broad as it is.

The degree of individual flexibility in selection of course work was varied. The most successful strategy seemed to be to discuss with the student his background, interests, and aims, and then to develop a course of studies that worked on his specific weaknesses. Most programs had a core of required courses, but those students particularly opposed to taking a certain course or group of courses tended to find a way of substituting other courses or internships for them. One participant who felt that the flexibility was a definite plus warned that such flexibility "needs to be tempered with close and competent guidance."

Seminars and Tutorials.--Both 3-and 1-year participants found value in the special seminars which were offered in all 11 institutions. The University of Minnesota has an interdisciplinary tutorial, the first of its kind for the university, in which students and faculty from the vocational and nonvocational departments engage in problem-solving discussions.

One dean perceived that the most important ingredient needed in vocational educational leadership was the mode of intellectual inquiry that such seminars had encouraged:

> I happen to believe that the raising of questions is as important as the substantive answers that are provided. What may characterize a leader is the type of questions he asks. What I've seen develop, and I jump for joy, is to see the EPDA participants get very confused because of the different answers they receive from faculty members. I view that as a first sign of progress. . . . If they learn to distrust experts as much as I do, including deans of schools of education, then we have added another little bit.

Special Needs Emphasis.--It was, in fact, from seminars that a major emphasis on needs of special groups frequently emerged. In Oklahoma, for example, a student-planned, 3-week seminar included as participants five chiefs of Indian tribes who were invited to explain the particular problems of their people. In another experiment in Oklahoma, white students lived with blacks in urban ghetto homes.

Opinions on the extent of program emphasis on the needs of special groups varied from institution to institution. Generally, special needs of women in vocational education were reported to be a minor emphasis. Some of the students said opportunity was there, but it was up to each one to take advantage of it. One very interested participant had worked at a manpower center, had developed a career education curriculum for the deaf, and during an internship had identified projects and curriculum materials for the disadvantaged and handicapped. A few participants worked on the need for vocational programs in prisons.

Overall, the following statement seems to apply to the emphasis given to special needs:

> The EPDA program has made us as a group more sensitive to all kinds of social problems--prisons, the plight of women in the working world, the plight of minorities. Actually, we became aware of all sorts of social issues, although I think that minority problems get the short end of the stick.

Only 1 of the 11 institutions was found to have a department staff member responsible for developing a program for ethnic minority needs.

Involvement of Section 552 With Career Education Diffusion.--Section 552 participants were frequently found to be heavily involved in diffusing the career education concept, not only through internships with local education agencies but within the university structure. One section 552 participant, in fact, said that "Without the 552 program, we wouldn't have had the career education dimension at this university."

Career education classes or seminars were conducted in most of the universities; in fact, one of the benefits of section 552 noted was that it had provided the opportunity to employ a faculty member to teach such a class. One such instructor was a section 552 program graduate; in at least two institutions career education classes were conducted by section 552 program directors. These classes were open to students other than the section 552 participants, although no sizable enrollment of nonsection 552 participants was reported. One section 552 instructor has this to say about his career education classes:

> . . . the most amazing thing is what the students learn from each other, because elementary teachers did not know what business education teachers' problems are, and vice versa.

Section 552 participants were thus exposed to many diverse viewpoints on the career education concept, ranging from critical intellectual inquiry to an almost unquestioning acceptance of the approach; from an emphasis on the specific vocational skill component of career education to a broader emphasis on the totality of life-work roles. Perhaps the most representative view to which the awardees were exposed, however, seemed

to be that expressed by one dean who echoed the concerns of many university personnel that the view of economic man would prevail in national career education planning. The dean expressed his concern about delivering to children a speech like the following:

> Look, Mr. 10-year-old, when you grow up you are going to have to work. Everybody has to work and you had better be thinking about that. To get the kind of experience you need to have a job and to help with our country, you had better listen very carefully and you had better learn what these people do. Your father works and in many cases your mother works. You're going to have to work too, and you'd better pick your job soon.
>
> I think that kind of message is terrible. I think it's not consistent with a world that is full of excitements and full of a lot of other things besides work. Our notion is to find ways to get across the other kind of mentality which might sound something like this: 'People in all different countries and in all the ages have found it very exciting and rewarding to work. The happiest people are ones who have found a match between their personal interest and some needs in society so that they can do a job that makes sense to them.'

Not so much involvement of academic disciplines as some would have liked was found in career education in the 11 institutions, but the attempts that were being made frequently included section 552 participants. In Oregon section 552 students were on an interdisciplinary faculty committee; in Minnesota, with members of the counseling department, the students attended interdisciplinary workshops for teacher-educators from several institutions.

Despite such interdisciplinary efforts, however, educators in these institutions felt that change in certification requirements was needed most. As one counseling faculty member said:

> This is the first time we've ever had teacher educators cross disciplines or cross institutions together for an in-service workshop. But I think the certification thing is where change has got to happen.

Section 552 participants were exposed to and involved in attempts to change certification requirements. In some universities vocational educators were working with guidance faculty. Minnesota (through section 553 funds) has a first-of-its-kind Joint Council of Vocational Teacher Educators developing new guidelines for certification. Georgia's section 552 students are assisting in an effort to develop a dual major in Special Education/Vocational Education patterned after the New Jersey model.

Other section 552 involvement in career education was with inservice attempts such as those described in chapter III. In Colorado, for example, one section 552 graduate was working with an interdisciplinary faculty team trying to demonstrate to the university the viability of the career education approach. During the year the team had traveled, without recompense, to many districts throughout the State to sponsor career education workshops. In fact, tuition from teachers attending such workshops had been put into a special fund to demonstrate further to the university the local demand for such assistance. Members of such teams viewed their work with local districts as merely broadening the university's traditional role of providing extension services to meet the needs of communities.

Effects of Section 552 on Institutions.

Reportedly, there was some initial expectation that section 552 might bring about reform in the institutions. Such expectations were totally unrealistic. However, it should be clearly understood that change of an important magnitude, considering the long history of vocational education, did occur--not consistently across all the institutions, but in some to an important extent. Directors, deans of schools of education, deans of graduate schools, and participant opinions indicate that the status of vocational education was raised somewhat, its image was improved,

its visibility was increased, and institutional commitment to it was enlarged. Perhaps more important in terms of institutional change was the career education diffusion.

One section 552 graduate recalled his experience in an economics class:

> I was taking a course from an economist in labor and industrial relations with some other EPDA students. One day the professor took some time out of a class to praise the EPDA students he had in his classes and the EPDA program in general. He said that he liked their practical approach to research, and such an approach, he felt, would well serve the other doctoral programs on campus as a positive model.

Program graduates also spoke of the effect on the vocational education departments and faculty. The faculty, they thought, had been broadened by the experience of having to adapt to such a diverse mixture of students. Many graduates thought that what change had come about had been primarily a result of pressures from a cohesive group of experienced participants who requested changes in program content.

In undergraduate programs there was little movement toward program comprehensiveness.

Effects of Section 552 on Program Graduates

In terms of the ultimate effect of the program on the performance of its graduates, one dean had this to say:

> I am inclined to think that all 11 institutions had an impact on at least one or two students who would not have had that impact had it not been for EPDA. If, out of all this Federal investment, out of all 11 institutions, six individuals emerged who can influence the course of events, I would say the Federal government has reaped a bounty.

It appears, in fact, that many more than six individuals have emerged from the section 552 programs who at least are in a position to "influence the course of events."

Since "leadership" in terms of this program has not been clearly defined, it is difficult to make judgments about how many of the section 552 participants actually went to leadership positions. If one assumes leadership to be upward mobility through the hierarchial levels of education, then, as shown in table 10, well over half the graduates (57 percent) were found in positions at the upper level of the hierarchy. However, there are other dimensions to leadership.

One graduate expressed his concept of leadership this way:

> There is "formal" and "informal" leadership. Formal leadership is that commonly recognized by such positions as administrator and supervisor. Informal leadership, on the other hand, is that exercised by people in other positions--teachers, counselors, researchers, curriculum developers.

In the table the positions of administrator and coordinator have been grouped together. In many ways this grouping reflects the nature of the position title. Many section 552 graduates interviewed characterized their duties as "being involved in coordinating," generally along some administrative, some teaching, some public relations lines. Of the 241 participants, nearly half (43 percent) are in an administrative or coordinating position at some level of the education system: State, regional, and local agencies; institutions of higher education; and postsecondary institutions. One-fourth of these are now working at the State level. Far fewer are in such positions at institutions of higher education and at postsecondary institutions.

The positions held by the balance of the section 552 graduates show a wide range of interests and concerns; several are working in curriculum development at the State and local district level, or as researchers at universities and State or regional agencies. Most say they are involved with the career education approach in some capacity, ranging from a State coordinating position to classroom teaching. Twelve percent, who entered late

Table 10.--Preprogram and Postprogram Positions of Participants
3-Year Section 552 Programs, by Category

Pre-Program Position \ Post-Program Position	Educational Agencies						Educational Institutions													
	Administration, Coordination		Research Curriculum		Other		Administration, Coordination			Faculty			Counseling		Other			Private Industry	Other†	Total
	State	Local*	State	Local*	State	Local*	4-Yr Coll	2-Yr	Sec	4-Yr Coll	2-Yr	Sec	2-Yr	Sec	4-Yr Coll	2-Yr	Sec			
Administration, Coordination: State	6	1	1				1	1		4						1				15
Administration, Coordination: Local*	5	21	1	4	2			3	1	2	1		1		1				1	43
Research, Curriculum: State	1	1					1			1	1				1					7
Research, Curriculum: Local*																			1	1
Other: State			1				1			1					1					4
Other: Local*		2																		2
Admin, Coord: 4-Yr Coll			1				2			2									1	5
Admin, Coord: 2-Yr Comm Coll or Tech Inst		3						1		4						1				15
Admin, Coord: Secondary	3	1					3	1			1				1					9
Faculty: 4-Yr Coll	1	3	2				2	2		3									2	33
Faculty: 2-Yr Comm Coll or Tech Inst	0	7	1	1		2		2		7					1					19
Faculty: Secondary																				33
Counseling: 2-Yr Comm Coll or Tech Inst	2	1																		1
Counseling: Secondary	1		1							1										4
Other: 4-Yr Coll																				3
Other: 2-Yr Comm Coll or Tech Inst	1	1																		1
Other: Secondary				1						2										3
Private Industry	1	1	1							3									1	7
Other†																				
Total	30	42	10	6	2	2	15	19	1	33	7	3	1	2	6	1	1	—	6	207‡

*Includes regional.

†Includes other education-related positions (e.g., Advisory Council Staff, educational commissions, etc.) and cases where educational level of position was not specified.

‡Excludes 29 participants who were full time students at time of reporting, and individuals for whom no information is available.

as replacements or could not complete their degree programs, are continuing their studies as full-time students, building on the foundation provided by the section 552 program.

Listed below are some of the current positions of section 552 graduates:

- Director of a section 552 program.
- Vice President for Academic Affairs at a community college.
- Administrative assistant to a superintendent of schools.
- Coordinator of career education in a county serving 12,000 pupils.
- Coordinators of State section 552 programs.
- Project Director of an effort to implement a campus-wide Performance-Based Education Program.
- Coordinator for Student Affairs at a technical institute, responsible for an effort to deal with the problem of 2-year transfer credits.

Because of prior commitments or contracts, some graduates returned to their former positions. One graduate who did so noted "There is just as much need for change and development here as anywhere else."

In terms of their present positions, most held that their experiences in the section 552 program had been personally extremely valuable. Even where there were complaints about program deficiencies, more benefits than debits were noted. Only one of the graduates interviewed found the program to be of no value whatsoever.

Interestingly, the most useful outcome of the program in terms of leadership was seen to be the graduates' ability to recognize and define problems. This outcome is remarkably congruent with the views of some section 552 directors and deans who saw this as the most desirable potential outcome for the graduates. Their dissertations, shown in appendix C, were seen as helpful in developing this ability.

The second most useful outcome of the program was the development of skills in (1) supervising programs and people, (2) working effectively with colleagues, and (3) devising strategies to deal with problems. Section 552 graduates found these abilities invaluable as they faced not only challenges of varied positions and situations, but also the expectations placed on them as graduates of a section 552 program.

As noted above, the section 552 graduates are fairly well distributed through all levels of education; interview material and observations of their performance suggest that most have a strong orientation toward needed reform in the educational system.

Some typical comments of graduates are:

> State Departments of Education should provide leadership rather than a monitoring function. As a result of my studies and experience, I saw the State Department of Education as an inhibiting factor in the development of vocational education. Thus I felt that a position within the State department was the best arena in which to work on solving this problem.

> I've been taking film-making and have produced an animated film dealing with career education to be shown in the schools. I'm also setting up a career education curriculum for inpatients at a neuropsychiatric clinic.

> I've just completed a three-year program funded by USOE working with the technical institute here in developing a pilot K through 14 career education program. My main concern is in improving the coordination between the local district and the technical institute.

> I have just initiated a class that is working on the matter of interlocking vocational and academic education through an interdisciplinary approach. We are trying to find ways to interlock the whole system. I am developing a package to assist in the administration of CE for K through 6 which includes curriculum, public relations assistance, and a staff development

> guide. It is an exciting time, and I feel as though I am on the frontier of an important movement. . . .

> I was, of course, especially interested in the problems of black people in vocational education. I did an internship in Ethiopia to train technically competent teachers and help develop curriculum for the Peace Corps. These interests, plus my interest in manpower development, merged in a position that came available as a curriculum specialist for AMIDS (Area Manpower Institute for Development of Staff).

Most graduates seemed to feel a new sense of identity as vocational educators, preferring not to focus on the dichotomy between vocational and academic education but to view themselves as "more vocationally oriented" educators. They felt respected, looked up to as experts; sometimes they were overwhelmed for requests with assistance, especially in locales where career education is a developing thrust. Most sensed that their field was gaining in status generally. As one remarked:

> You know, we have a new building now where our department is housed. When we were in the old building, my office was right next to the wood shop. I became used to working with a quarter of an inch of sawdust on my desk. But now we have this modern facility. We are becoming more recognized, more sophisticated. But in the context of this changing environment, it is necessary that there be leadership at all points and all levels of vocational education if we are to deal adequately with this atmosphere of change.

Leadership development, in fact, was seen as a major need by most of the interviewees; they placed almost equal focus on inservice and preservice training for vocational teachers. Many saw diffusion of career education as one of the major issues facing leadership in vocational education. Most predicted that career education would continue as a direction in American education because of the grass roots support they had found in their diverse locales, despite the lack of provisions from higher levels to deal with the need.

Not representative but illustrative of the experiences of the section 552 graduates from entry to exit, is the following case study of one section 552 awardee:

> Dr. M. is best characterized by the variety of experiences he brought into the program. He owned a farm in the Midwest and handled a line of goods for a local company while studying to be an electrician and working on a Master's Degree. After receiving his journeyman electrician license and a degree in Industrial Education, he worked on an electrical job at a State Department of Vocational Education. Noticing a flyer on the EPDA 552 program, he decided to apply and was accepted. He had two weeks to sell his farm, cancel his commitments, and arrive at the university.
>
> While in the program, M. chose internships in university teaching, community college, and local school administration. He worked on career education projects for the deaf, the disadvantaged, and the handicapped. On completion of the program, he received five job offers. To keep his interview appointments, he hitched up his trailer and drove across the country, finally selecting a position as a career education coordinator for a consolidated school district.
>
> Dr. M. is currently responsible for implementation and planning of the K-12 career education program, coordinating all facets. He says: "We are not prepared for a massive career education effort, so I seem to be considered the 'pro' around here on the subject." He constantly receives calls from the State education department for advice and attendance at planning sessions. He recently served as a consultant to a planning conference in Washington, D.C., for career education diffusion.

Perspectives on Program Content and Duration.

After having worked in the field for more than a year after graduation, most section 552 graduates held that a 1-year leadership program did not provide sufficient time to develop the competencies required to meet the needs. Most 1-year students and all section 552 program directors confirmed this view. Some, of course, thought that future

planning for leadership development should be flexible (1, 7, or 3 years) depending on individual need. The consensus was that the 3-year doctoral program was most desirable and that a minimum of 2 years was essential for effective development of skills needed.

One-year students reflected discouragement about their future chances in a credentialing society that gives inordinate status to the Ph.D. Some, unable to complete M.A. requirements, left 1-year programs without even a certificate to show that they had completed a leadership development program; others were motivated to apply for a second year of EPDA training.

Requirements for leadership, however, continue to be a matter of debate among section 552 directors and program planners. Most directors seemed to be retaining the need for preparing leaders who could broaden and update skill training within a career education approach. One thought the section 552 program had not yet begun to touch the needs for leadership in career education; it had not dealt with important questions of educational finance, political implications of trying to effect equitable distribution of funds across levels of education, and legal issues that could affect future directions in education. In fact, this director had a strong conviction that nowhere in the nation was that kind of planning for career education leadership going on.

Overall, both deans of schools of education and deans of the graduate schools expressed the opinion that the 3-year section 552 program had gone in the direction of preparing the broad-based leadership that was needed; and some in fact, suggested that the section 552 program might be thought of as a model for the kind of leadership preparation needed for career education.

Postulating a changing world with a complexity of value questions that cannot be answered simplistically, one dean saw the need for educational leaders ". . . who can wrestle with tough questions, who can think

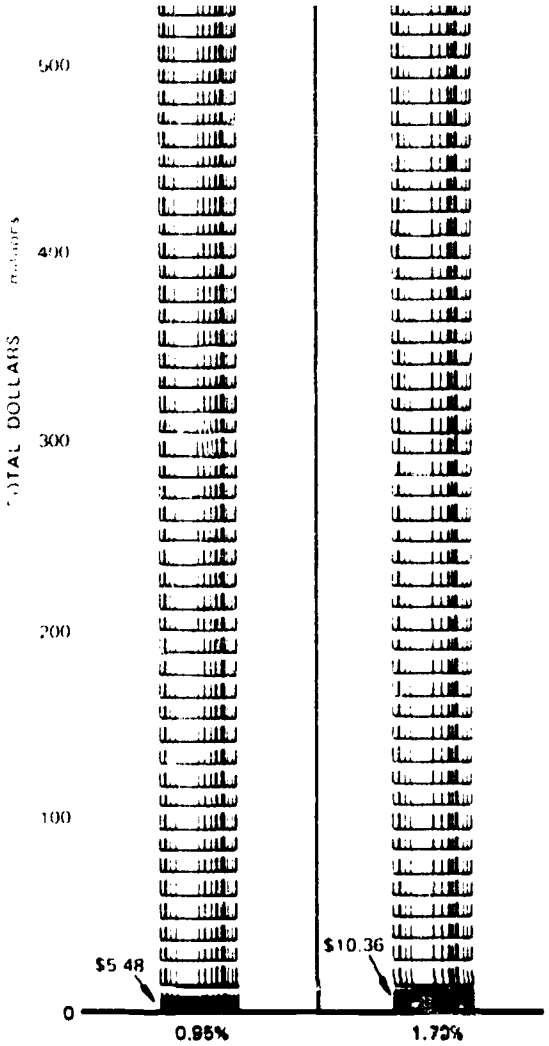
in terms of alternatives, who are humane." Given such a changing world, then one can justify a training program that is not aimed along a certain substantive line; e.g., preparing vocational leaders of X or Y characteristics. To this dean, the justification for the section 552 program is that it has the possibility of producing individuals with the characteristics of redefining problems and seeking alternative solutions. As he said:

> It seems to me that the leaders in a changing world will be people who can ask the hard questions--people who are dissatisfied and understand the limitations of the traditional answers that have been given. That is a tall order. On the other hand, that is the kind of thing that is important in any kind of leadership training--that cuts across occupational education, general education. These are leadership characteristics that society has to subsidize and be looking for.

V. ACHIEVEMENTS OF EPDA'S PART F, SECTIONS 552 AND 553

The evidence of this study suggests that in all 11 States EPDA's part F acted as a catalyst for reform in vocational personnel development. In relation to the Federal investment, the returns from the part F programs appear to be significant. As shown in figure 7, section 553 represents 1.79 percent of the total Federal allocations in vocational education for the 3-year period, fiscal year 1970 through 1973, in all 11 States. For the same years, section 552 represents 0.95 percent of the total for the 11 States. The leadership personnel developed through the 3-year doctoral program represents less than 0.1 percent of all teachers, supervisors, and administrators in vocational education.

The ultimate evidence of the success of the section 553 projects, of course, lies in the extent to which teachers, counselors, and administrators offer improved services to their students; such evidence is not yet available. Likewise, only future performance of graduates in various positions of leadership will determine the extent to which the section 552 program achieved its objectives. But at this time the evidence is convincing that these programs are not only focused on the right problems, they have accomplished more than was suggested in the statement of legislative purpose.



552 AND 553 DOLLARS ALLOCATED AS A PERCENT OF TOTAL FEDERAL ALLOCATIONS FOR VOCATIONAL EDUCATION

There are important implications, too, for assisting States with chanisms for improving coordination between agencies. As President rd has remarked, "Our goal of quality education is on a collision urse with the escalating demands for the public dollar" and "there is

EPDA's part F has helped State departments of vocational education, institutions of higher education, and local educational agencies implement a more comprehensive approach to personnel development in vocational education than earlier methods.

For some of the institutions participating in section 552, it was their first move away from providing doctorates in segmented fields toward a comprehensive effort to develop knowledge in all fields of vocational education. In a like manner, section 553 enabled State departments of vocational education to experiment with more comprehensive approaches to inservice training by bringing together vocational educators from a variety of fields to develop commonalities of skills across fields and to further the cluster approach to training.

Nevertheless, there is a long way to go in the direction of regrouping occupational fields and providing training programs for the people who teach and administer. Unanswered questions remain and deserve careful consideration: What are the commonalities across occupations for which personnel in vocational education should be trained? For each

specialty how far does the movement toward generality in vocational personnel development go without losing important elements of specificity?

There has been little movement toward comprehensiveness in undergraduate teacher education, which gives rise to the question of how teachers now coming out of vocational preparation programs will be prepared to deal with increasing use of cluster approaches to skill development in local education agencies. Leaders developed in section 552 appear to be addressing these issues.

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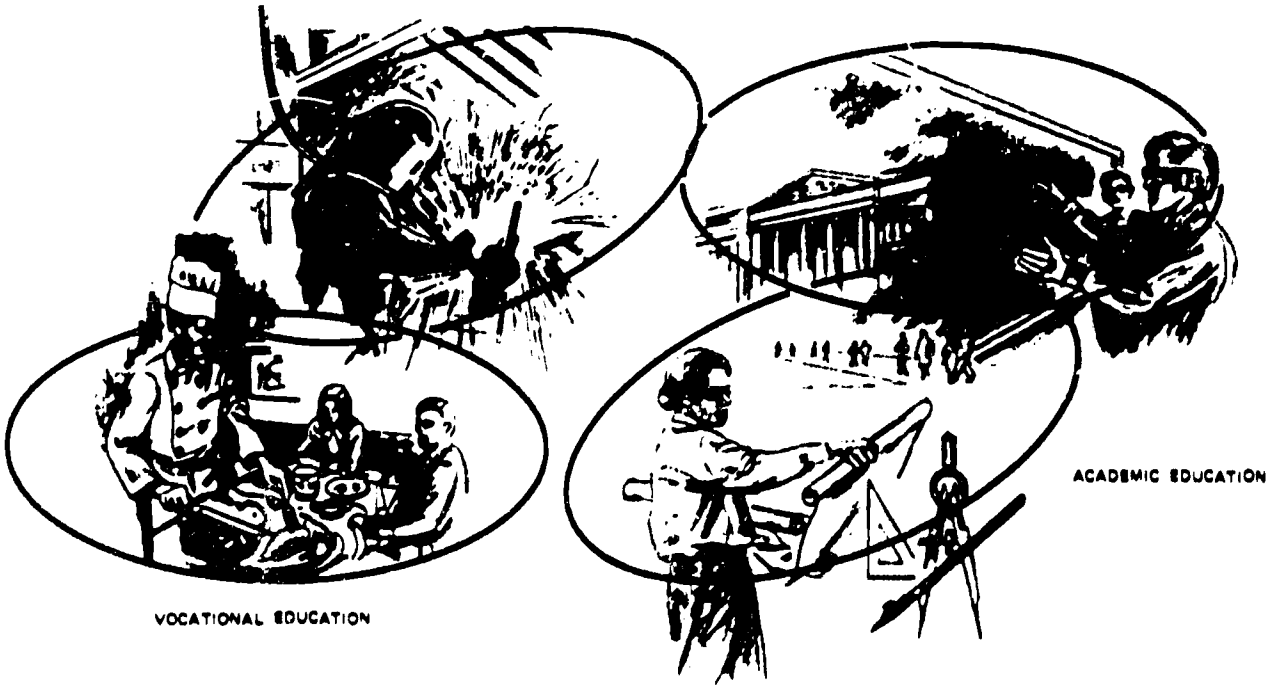


- EPDA's Part F has brought vocational and academic personnel together in planning and in training.

Inservice training provided through section 553 has frequently involved interdisciplinary teams of vocational and academic educators, teachers, counselors, and administrators at the local district level. Similar combinations of teacher-educators at the university preservice level have also been funded through section 553. Such teams frequently work together in developing curriculum materials, generally for career education diffusion. More importantly, perhaps, such unified efforts tend to break down attitudinal barriers and value assumptions.

Through such interdisciplinary efforts, apprehensions and fears of loss of identity have been somewhat dissipated; each individual brings to the effort his own particular set of skills and works with others toward the goal of improved student learning.

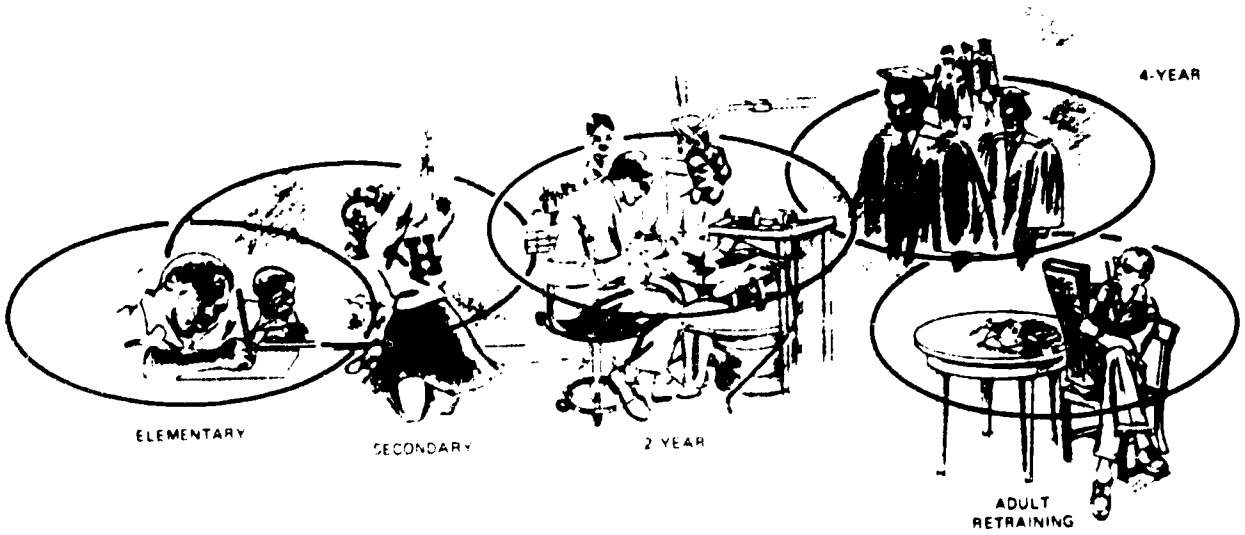
Although section 552 has not caused significant institutional change, it has provided higher visibility and image raising for vocational education at the university level. In several institutions the section 552 performance tends to increase the university's commitment to personnel development in vocational education, faculty tend to become somewhat broader, and the university's boundaries tend to become less rigid. Several deans of schools of education have expressed the opinion that the section 552 program is a primitive model for the kinds of preparation needed for career education leadership.

But evidence indicates that such attempts have only begun to address the need for people in separate fields and disciplines to work together, to interact on new assumptions about the value of each other's specialty in an integrated approach to learning.

Graduates of the 3-year doctoral program have added to the field's intellectual base and are performing their jobs with broader based attitudes toward vocational education, which suggests they may indeed function as change agents.

* * * * * * *

Articulation Between Levels of Education



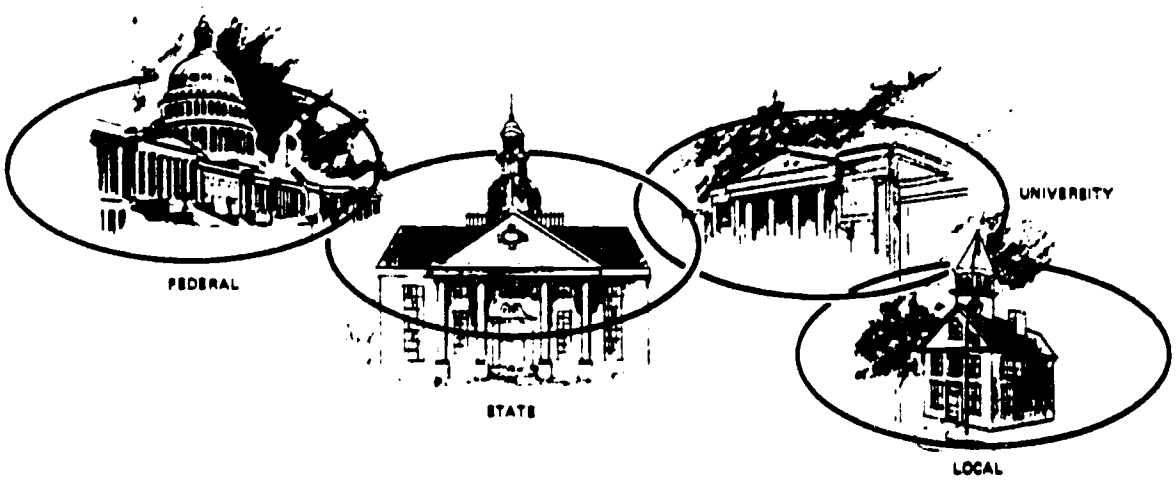
EPDA's part F has touched on the problems of articulation, primarily through cooperation by personnel at several levels in diffusing career education.

Section 553 workshops have brought together teachers, counselors, and administrators from all levels of education and thus have somewhat addressed the problems of providing better linkage among the various levels of the educational system.

Although improved articulation has been one of the indirect results of joint attempts at career education diffusion, this is an area needing direct attention. One of the most significant needs is a system for adult reentry at any juncture of the system.

Section 552 program graduates are now working in all levels of education with more awareness of the need for improving linkages. Perhaps these people will find new ways to facilitate the movement of students through the levels of the educational system.

Coordination



EPDA's part F has improved the extent of coordination among State departments, institutions of higher education, and local education agencies.

Although working relationships between States and institutions had been established prior to the beginning of sections 552 and 553, such relationships have been broadened and enhanced by these two sections of EPDA's part F. Few new personnel have been introduced, but long timers have frequently demonstrated an ability to become broader based program people.

The organizational structures that were described as an "impediment to change" have been changing in some States, generally before the introduction of EPDA's part F. The addition of a VEPD coordinator has added strength to State departments in terms of conceptualizing and bringing about needed reform in personnel development.

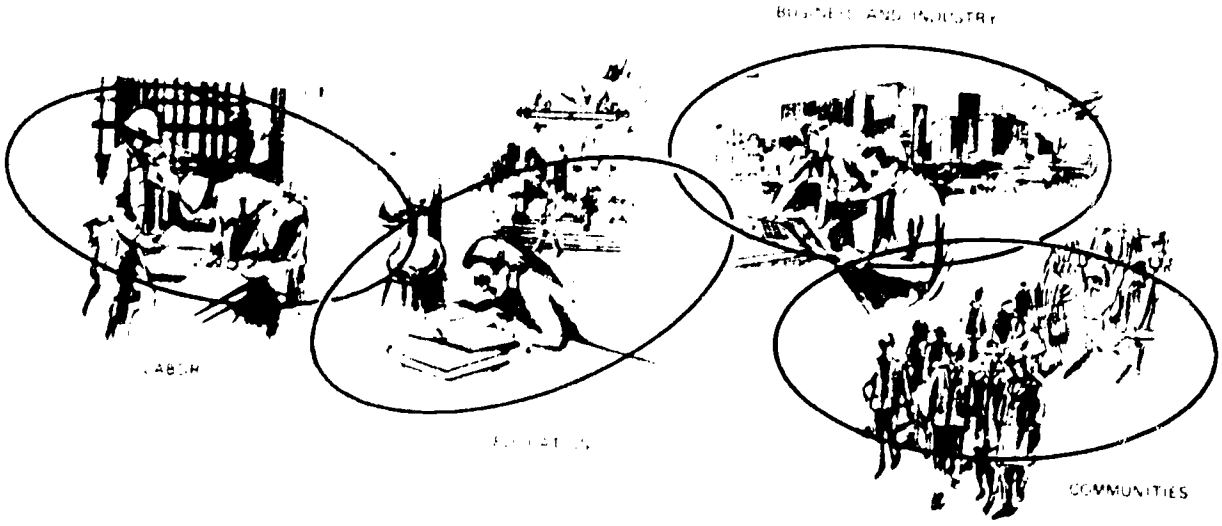
In some States an increased commitment to personnel development on the part of institutions is evident.

Most of the section 553 projects have involved institutions and local district personnel in a unified effort. Section 553 appears to be associated also with a national trend to local accountability; several States are moving toward a strong emphasis on being responsive to personnel needs assessments performed by local education agencies.

Coordination needs for improving administration are great. Section 552 graduates are aware of the dangers of jurisdictional rivalries. They can be expected to foster some changes for the better in administration of vocational education.

* * * * * * *

Linkages External to the Educational System



EPDA's part F has tended to improve relationships between education, business and industry, and the community.

Some success has been reported in bringing business and industry people into the schools for brief periods of time. Labor has largely been underrepresented in EPDA's part F programs, although a few representatives are on advisory councils for both sections 552 and 553.

There has been little, if any, participation of community paraprofessionsls in section 553 workshops, but if the interdisciplinary movement does indeed gain momentum, it is anticipated that community representatives like those frequently found in ESEA programs might be used in vocationally oriented programs.

The selection of ethnic and female participants for the 1-year section 552 program has significantly increased their representation. But in general recruitment of minority group personnel into vocational education positions is reported to be an unmet need.

The most significant involvement of the citizenry is found in career education diffusion efforts. Some States report their first step to be the establishment of a community advisory council. Where, as in Colorado,

an interdisciplinary team of teacher-educators traveled to many remote areas of the State to assist with section 553 workshops, there is an analogy between their effort and the model of the Agricultural Extension Service: delivering to communities the service of the university in a new and innovative form.

VI. IMPLICATIONS FOR THE FUTURE FEDERAL ROLE IN PERSONNEL DEVELOPMENT FOR VOCATIONAL EDUCATION

The findings of this study have important implications for the Federal role. In terms of congressional and USOE planning for future initiatives in vocational and career education, perhaps the major issue to be addressed is that of priorities to be given to personnel development. Career education--however defined--has little chance of survival as an enduring direction in American education without intensive personnel development in both vocational and academic education. Curriculum, as a strategy for implementing career education, was given considerable weight, but little evidence was found that curriculum could be successfully installed without accompanying inservice training.

There is remarkable congruency among the States on the basic meaning of career education. The States believe that career education can provide an improved learning environment for children. Awareness programs can provide a base of information from which students can then explore possible areas of interest. Later exposure to actual work environments and experience with various occupational clusters can further broaden the base of information without locking students into premature choices. The possibility that inappropriate choices might be made only reinforces the need for more opportunities for retraining throughout one's entire working life.

But the States are also saying that career education demands new linkages and patterns of interaction that heretofore have not existed to any significant extent in the American educational system. These linkages will be enormously difficult to develop; isolation of the parts is

reinforced by entrenched value systems and attitudinal barriers. Self-protective segments frequently seem to be putting control of territorial domain above the best interests of students.

Expectations for revolutionary change through career education appear to be as unrealistic as the expectations that Federal funds for education in the 1960's would ameliorate all of society's ills. The evidence of this report indicates, however, that through well-placed, relatively small amounts of Federal expenditures, such as EPDA's part F career education is making small but important inroads into traditionally isolated components of the educational system.

In relation to the total needs for change in personnel development, current attempts are miniscule. Creative programs of personnel development should be further encouraged. The focus can be on the kind of experimentation that EPDA's part F has fostered.

What are the major implications for change in personnel development?--Vocational educators need assistance in adapting to new directions. USOE's Division of Vocational and Technical Education is continuing work on the 15 occupational clusters initially developed there. A contract has been awarded to develop and analyze a profile of characteristics for over 100 skilled occupations for 1980. Findings of the study should assist school counselors and vocational personnel in determining which occupations--based on factors such as increased need, shifts in educational requirements, and prospective earnings--should get priority consideration.

In terms of the broader career education direction, the basic problem appears to lie in devising strategies that will bring the two opposing viewpoints, vocational and academic, in closer alignment. EPDA's part F

administered under vocational education auspices is a small step in that direction. However, if fiscal control of programmatic leadership is vested exclusively in the hands of either of the separate components of the educational system, the evidence suggests that career education's potential for unifying our fragmented system will not be realized.

Cooperative effort among educators of different disciplines and persuasions is necessary. If concerned factions can be reassured that there is need for everyone's individual area of expertise in an integrated effort for the benefit of students, the changes may be feasible.

Academic educators need to be shown that career education does not signify the exclusion of liberal arts training for their students. Vocational educators need reassurance that career education does not reduce the importance or the support of their vital component of the entire educational process. Involving vocational educators in career education planning and programs funded with moneys other than those already earmarked for vocational education can provide reassurance.

Inservice training that creates a mutually supportive climate of understanding and respect for another's area of specialty is needed. To the extent that values change, structures may become more permeable for more effective execution of career education priorities.

What are the major needs for trained personnel?--It has been said that a thousand leaders of national stature--in their remote positions--cannot replace one creative, imaginative, dedicated teacher. All other leadership provides the environment in which teacher leadership can flourish. Thus, administrative and supervisory leadership is a prerequisite to that environment. The need is for development at all levels: the EPDA focus on administrators, counselors, and teachers is clearly on target.

.c disciplines can make to an integrated effort.

How can the Federal effort best be targeted to other State personnel

ls?--State and local planners need assistance in improving systems both quantitative and qualitative needs for vocational personnel and mproving systems for the reporting required under the Federal Acts. sely related to improvement in State mechanisms for planning is improve- in Federal level mechanisms and the data bases on which national jections of supply and demand rest. The National Center for Edu- lon Statistics, set up in the Office of the Assistant Secretary for :ation, will address these problems.

Advance funding is seen as a major need in the States. th the ess of selecting students for the section 552 leadership program and the tial quality of the programs appear to have been adversely affected funding delays. Input from personnel development advisory councils often hampered by late funding. Certainly the need to communicate districts far earlier than late spring—before summer inservice shops are planned--is obvious. The evidence is convincing that er such programs need several months more time than is now available program and administrative planning. USOE has been attempting to note forward funding of educational programs where feasible.

There are important implications, too, for assisting States with mechanisms for improving coordination between agencies. As President Ford has remarked, "Our goal of quality education is on a collision course with the escalating demands for the public dollar" and "there is too much confusion about which level of government is to play which role in support of postsecondary education." The President is directing responsible agencies of government to make a new evaluation of ". . . where we are, where we want to go, and where we can reasonably expect to be five years from now." USOE has put a high priority on contributing solutions to these problems.

Helpful in this regard may be the recent grants awarded by the Fund for the Improvement of Postsecondary Education to colleges, universities, and State governments for exploring new cooperative arrangements. Efforts at institutional cooperation include a project wherein six vocational-technical schools are joining with a State college to provide new education options.

How can we improve linkages with external groups?--Certainly educators alone cannot solve the problems of linking education with the economy and the rest of society. The challenge goes far beyond the school and calls for the assistance of business and industry, labor, and the citizenry. A unified effort is called for. President Ford has asked the Secretaries of Labor and HEW to report to him new ways to bring the world of work and institutions of education closer together. Grants have been awarded to States or larger localities designed to aid people in job and career selection by providing them with current, accurate and locally relevant information. Coordinators for industry/education/labor councils have been set up in each of the States through USOE efforts.

States also need assistance for special needs groups where personnel development training in vocational education is seen to be most deficient: the handicapped, ethnic minorities, and women. Generally, there is

inadequate preservice preparation in vocational education for serving the needs of these groups.

Some think that efforts in putting handicapped students back into regular classrooms have been premature, given the lack of effective training programs for teachers. Development of such innovative credentialing as a dual major in Vocational and Special Education is a promising direction. Certainly, the new Federal requirement that contractors provide employment opportunities for handicapped persons will be useful; but such requirements only increase the need for improved programs for vocational educators and improved coordination between vocational educators and business and industry.

Meeting the needs of ethnic minorities will require increased development of sensitive teaching and counseling skills, especially in urban areas where vocational educators have been least successful. A major need is to develop ways of improving the quality of vocational education so that minority groups can experience it as a means of developing a potential for upward mobility rather than for filling lower status jobs. The grants recently awarded to 42 public and private education groups to develop multiethnic programs keyed to cultural heritage will help develop a keener awareness of the needs of ethnic minorities. The proposed programs will relate to all levels of the education system and seek to promote greater appreciation of our Nation's multiethnic society and encourage citizens to participate more harmoniously in the communities in which they live.

In general, career education has accelerated a trend to increased citizen participation in the schools and this trend should continue. Advisory council staff in vocational education should include more representation of citizen groups. Gallup Poll data do indicate an increased interest in securing more information about the educational process and this trend should be encouraged.[1]

A study by Yankelovich suggests that new value systems are emerging that may be significant for the future of the country since they will affect a broad cross-section of young people rather than a small minority. Four out of five young people believe commitment to a meaningful career is a very important part of a person's life; the ability to find self-expression tops the list of influences on their career choice.[2]

One study suggests that job prestige will increasingly swing away from the classic criteria of income and education toward emphasis on helping people, social usefulness, and who one is rather than the position held.[3] Some economists argue that the trend in the postindustrial future is away from economic determination of employment chances.

> . . . to a great degree, work has become a function of society's wishes rather than its needs. Much employment in service fields, for example, can be established almost arbitrarily by society, especially by the government. In recent years legislation has created whole new service industries in the areas of manpower training, pollution control, health care, and various social welfare programs.[4]

USOE has recently awarded more than $2 million in grants to State and local education agencies, colleges and universities, environment groups, and civic organizations for environmental education with emphasis on training teachers K-12. A leading educator has said:

> What the country wants to do or can do will be affected by the kind of manpower available- by the way people have been educated, by the values they cherish, by the tasks they think worth working [illegible].

What are the future needs for leadership in vocational education?--Defining characteristics of leadership needed in vocational education continues to be a matter of some debate. But flexibility and debate, in fact, may be the key: Leadership requirements will change as situations change. Institutional flexibility is necessary. Sensitive

monitoring of societal trends for responsive action by States and institutions is essential. Trends relating to political and legal issues, educational finance, citizen participation, cultural pluralism, and technological change versus human values will have important implications for the content of future leadership development programs.

If vocational leadership is to be responsive to a rapidly changing technology and societal trends, a cadre of interdisciplinary educators oriented toward problem solving is needed. To achieve this goal, vocational leaders are needed whose training is broad based and who appreciate the value of the contribution of each of the vocational fields and academic disciplines to an integrated effort.

Perhaps the experience of the section 552 graduates in their unique leadership positions over time may add to our limited knowledge about the important issues entailed in selection, recruitment, and training of vocational leadership for the decades ahead.

In his speech to the 1974 graduates at Ohio State University, President Ford presented this challenge:

> Show us how to increase productivity. Show us how to combine new life styles with the old responsibilities. Show us how universities can work with industry and labor to devise a whole new community of learning across America. Show us how work-study programs can be a part of the ongoing educational process. Show us how new skills can improve technology while humanizing its use.[5]

CHAPTER VI. -- NOTES

1. The Gallup Polls of Attitudes Toward Education, 1969-1973, S. Elam, ed. (Phi Delta Kappa, Bloomington, Ind., 1973).

2. D. Yankelovich, Inc., The Changing Values on Campus: Political and Personel Attitudes of Today's College Students (Washington Square Press, New York, N.Y., 1972).

3. A. Mitchell, "Life Ways and Life Styles," Stanford Research Institute, Menlo Park, Calif. (1973.)

4. S. Levitan and W. Johnston, "Changes in Work: More Evolution than Revolution," Manpower (September 1973).

5. H. Bowen, "Manpower Management and Higher Education," Educational Record (Winter 1973).

6. Remarks of President Gerald R. Ford, Commencement of Ohio State University, Columbus, Ohio (August 1974).

Appendix A

EPDA's PART F, SECTION 553 PROJECTS BY CATEGORY
Fiscal Years 1971-73

Table A-1 lists section 553 projects by category. Categorization into completely separate subjects is not exact and there is some overlap. However, the 14 categories used here indicate the nature of vocational education personnel development programs conducted with section 553 funds in the 11 States under study. The table contains information received from the 11 State departments of vocational education. Blank spaces indicate that no data were received.

The breakdown of participants into the number of administrators, supervisors, teacher-educators, researchers, or instructors was not available for the majority of States and was therefore omitted.

TABLE A

EPDA'S PART F, SECTION 553 PROJECTS BY CATEGORY
Fiscal Years 1971-73

Subject and Title or Description	Sponsor	No. of Participants
1. Administration and supervision training (including leadership training, budgets, and the like)		
Improving the Administration of Multi-Teacher Departments of Vocational Education in Agriculture	Calif State Polytech College	75
Improving the Administration of Manpower Development Programs in Schools, Industry, and Public Service	Univ. of Redlands	40
Institute for local school administrators to assist them in planning, implementing, and administering vocational education programs	Univ. of Georgia, Georgia State Univ., Georgia Southern College	
Three regional institutes to prepare local system principals and central office personnel to implement and manage comprehensive vocational and career education programs	Univ. of Georgia, Georgia State Univ., Georgia Southern College	
Vocational Education Institute-Leadership Development	Univ. of Illinois	2
Internship for Leadership Development	Northern Illinois Univ.	2
Internship for Leadership in Occupational Education	Southern Illinois Univ.	2
Internship for Leadership in Occupational Education	Illinois State Univ.	2
Internship for Leadership Development	Western Illinois Univ.	2
Internship for Leadership Development	Southern Illinois Univ.	2
Leadership Personnel	Univ. of Illinois	2
Occupational Education Administration--Training Phase	Chicago State Univ.	15
Occupational Administration--Training Phase	Southern Illinois Univ.	22
Internships	Illinois State Division of Vocational and Technical Education	2
Administration by Competency--Training Phase	Illinois State Univ.	12
Orientation for Public School Administrators on the Role of Industrial Arts and Vocational Education in Career Education	Southwestern State College, Oklahoma	54
Organizing a Management of Time seminar		

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
1. Administration and supervision training (including leadership training, budgets, and the like) (continued)		
The Administrator's role in Implementing Innovative Instructional Materials (3 workshops)		
Implementing a Management by Objectives System		
Conference on Legislation for Vocational Education		85
Continuation of Management by Objectives for Vocational-Technical Personnel		500
Continuation of a pilot program for preparing leaders and teachers in allied health occupations		96
Three staff development programs in modern methods in administration of a State vocational-technical education program		
Training Program to Help School Administrators to Plan, Program, and Budget for Local Vocational Education Programs		160
Career Development Leadership Workshop to Increase the Leadership Expertise of Career Development Program Project Personnel	Ohio State Univ.	100
Leadership Development for Local Education Agencies	Kent State Univ.	34
Development of Specialists to Serve the Family Life and Impact Home Economics Programs	Ohio State Univ.	49
Communications Seminar for Local Education Agency Personnel	Ohio State Dept. of Education	40
Introduction of Personnel to the Federal Legislative and Budgeting Scene	Ohio State Dept. of Education	2
Maintaining Quality Vocational Education Programs Through Administrator Awareness and Commitment	Ohio State Dept. of Education	
National Leadership Development Programs for Vocational Education Personnel	Ohio State Univ.	
2. Advisory councils		
Yuba-Calif Area Planning Council	Yuba Community College District	240
University Occupational Education Coordinator	Chicago State Univ.	1
University Occupational Education Coordinator	Southern Illinois Univ.	1
University Occupational Education Coordinator	Illinois State Univ.	1

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
2. Advisory councils (continued)		
University Occupational Education Coordinator	Western Illinois Univ.	1
University Occupational Education Coordinator	Southern Illinois Univ.	1
University Occupational Education Coordinator	Eastern Illinois Univ.	1
University Occupational Education Coordinator	Northern Illinois Univ.	1
University Occupational Education Coordinator	Univ. of Illinois	1
Advisory Committee in-service workshop for Sandy High School		14
3. Business and industrial exchange		
An internship program for the training, exchange, and transition of vocational education and business, industry, agriculture, and government personnel	Colorado State Univ.	11
Occupational Education Industry Exchange	Eastern Illinois Univ.	12
Industry School Exchange Program for Personnel Development		24
Continuation of an Industry School Exchange Program for Development of Educational Personnel	Southeastern State College	11
Training vocational instructors recruited from industry		
Continuation of an Industry School Exchange Project		22
4. Career education development		
State and Community Implemented Model for Integrating Career Development Concepts in a Total Education Program, K Through 12	Sonoma County Office of Education	120
Institute for training counselors in Preschools of Education and Career Exploration (P.E.C.E.)	Univ. of Georgia	
Institute for preservational teachers in home economics, business education, and agriculture	Univ. of Georgia	
Institute for preservational teachers in industrial arts	Georgia Southern College	
Three regional institutes for teachers and counselors from grades 1 through 12 to prepare them to use career-related learning activities in ongoing curriculums	Univ. of Georgia, Georgia State Univ., Georgia Southern College	
Institute (third) for preservational teachers in agriculture, business education, technical, and home economics	Univ. of Georgia	

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
1. Career education development (continued)		
Regional institute for prevocational teachers in industrial arts	Georgia Southern College	
Another regional institute for prevocational teachers in industrial arts	Georgia Southern College	
Institute to train industrial arts teachers from small high schools to teach selected trade and industry cluster programs	Univ. of Georgia and Georgia Southern College	
Institute to train new trade and industry and home economic teachers to implement high school cluster courses	Univ. of Georgia	
Institute to train coordinators for Programs of Education and Career Exploration (P.E.C.E.)	Univ. of Georgia	
Leadership Understudy Program for Career Education	Univ. of Illinois	1
One in-state program on in-service training for elementary teachers (TIC)		
EPDA funds provided for a national-regional workshop for TIC held at Atlantic City		
Program developed to assist the implementation of Governor Cahill's career development concept by providing in-service training to guidance counselors in three cities in N.J.		
Define the Role of Industrial Arts in Career Education for the State		400
Workshop to promote understanding of vocational, technical, and career education among secondary school principals	Oklahoma State Univ.	100
Workshop for the development of career education in counselor education programs in Oklahoma	Colorado State Univ.	33
Orientation for Public School Administrators on the Role of Industrial Arts and Vocational Education in Career Education	Southwestern State College, Oklahoma	120
Updating skills and competencies of Portland area counselors in providing career education and job cluster information	Portland School Districts	
Career Education: An Integral Part of Teacher Education	Interinstitution Committee	
Project to define, test, and refine an appropriate model for in-service for elementary teachers for career awareness activities	Portland State Univ.	
Project Career Exploration, Grades 7 through 10 (Developing teacher competencies)		
Organization of three statewide exploratory in-service workshops for cluster teachers		

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
1. Career education development (continued)		
Organization of four career awareness in-service courses		10
Career awareness in-service course organization		
Career Education Institute--Monte Vista		
Career Education Staff Development	Boulder, Colorado	
Career Education Orientation and Implementation--Northglenn		
A Preservice Summer Training Program for Coordinators, Teachers, and Others of Ninth/Tenth Grade Career Exploration Programs		180
Career Development Program Extension and Expansion		
Career Development Leadership Workshop to Increase the Leadership Expertise of Career Development Program Project Personnel	Ohio State Univ.	100
Pre-Postsecondary Instructor Training to Optimize Teacher Effectiveness in the Implementation of a Goal-Centered Pre-Postsecondary Curriculum	Kent State Univ.	20-25
Occupational Analyses for 75 Occupations	Ohio State Univ.	225
Career Education In-service Development Through Process Reflection	Ohio State Dept. of Education	25
Introducing the Career Development Continuum Concept to Teacher Candidates in the Preservice Teacher Education Program	Ohio State Univ.	280
Preservice and In-service Teacher Education Training	Ohio State Univ.	
Leadership Development in Career Education	Ohio State Univ.	
Pre-Postsecondary Instructor Training	Kent State Univ.	
Education for Parental and Child Development: A Training Program for Developing Teacher Competencies	Univ. of Oklahoma	21
Three regional institutes for vocational and academic teaching teams (Grades 7-12) to prepare them to interlock their curriculums	Univ. of Georgia, Georgia State Univ., Georgia Southern College	
Institute and follow-up activities for secondary school curriculum interlocking teams of vocational and academic teachers and coop vocational and academic education coordinators to work with and serve the disadvantaged or handicapped student	Georgia Southern College	

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
1. Career education development (continued)		
Training a Cadre of Community College Educators to Conduct in-service training Programs in Coordinated Instr. Systems Development for Occupational Programs	Coast Community College District	200
Leadership Understudy Program for Career Education	Univ. of Illinois	1
Career Education in-service Development Through Process Reflection	Ohio State Dept. of Education	
Leadership Development in Career Education	Ohio State Univ.	
3. Certification/degree programs (including preservice training)		
A consortium trade and technical teacher education baccalaureate degree program	Savannah State College, Univ. of Georgia	
A consortium trade and technical teacher education baccalaureate degree program (Final, Phase III)	Savannah State College Univ. of Georgia	
Teacher Education in Vocational and Technical Education (TEVOTEC)	Univ. of Illinois	20
Understudy	Southern Illinois Univ.	1
A Model to Improve Preservice Programs in Vocational-Technical Teacher Education		
Teacher Training Program for New Vocational and Technical Teachers	Oklahoma State Univ. and State Dept. of Vocational and Technical Education	22
Development of A.S. Programs		
Technical Education Teacher Training Institute		30
An In-service Teacher Education Program of Business and Office Education Graduates from Technical-Level Schools of Public Education (or equivalent) and a New Method of Training Business and Office Education Teachers	Ohio State Univ.	106
Introducing the Career Development Continuum Concept to Teacher Candidates in the Preservice Teacher Education Program	Ohio State Univ.	280
4. Counseling and guidance (incl. placement, job placement)		
[illegible] Career Planners	Shasta-Tehama-Trinity Joint Junior College District	150
Career Guidance Training	La Canada Unified School District	10

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
6 Counseling and guidance (including job placement) (continued)		
Summer Institute for Programming and Information Systems	Coast Community College District	20
In-service Education in the Public Service for College Counselors	UCLA	109
Professional Career Development (An undergraduate career guidance, counseling, placement program for prospective vocational education teachers)	Northern Colorado Univ.	13
Training program for teachers and counselors to prepare them to monitor disadvantaged and handicapped student activities and to develop in special teacher coordinators and counselors the needed skills for initiating and operating a local job placement program	Univ. of Georgia, Georgia State Univ., Georgia Southern College	
Three regional institutes to prepare high school job placement teams	Georgia State Univ.	
Improving Guidance and Counseling in Public Schools		
The Effect of Skill Training on the Career Guidance Practice of Counselors		
Updating skills and competencies of Portland area counselors in providing career education and job cluster information	Portland, Oregon School Districts	
Counseling re A.S., B.A., and M.A. degrees		30
Counseling regarding certification requirements and A.S., B.A., and M.A. requirements		40
A Workshop to Improve Guidance and Counseling in Public Schools		51
Planning and development of new role responsibilities and career guidance program for local schools		63
7. Curriculum materials		
National Curriculum Diffusion Seminar	State of Illinois	125
In-service training for vocational-technical teachers in the use of Instructional materials developed by the Curriculum and Instruction Materials Center	Oklahoma State Division of Vocational and Technical Education	580
In-service training of vocational-technical teachers in the use of curriculum materials	Oklahoma State Division of Vocational and Technical Education	250

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
. Curriculum materials (continued)		
Preparation of cadre leaders to conduct in-service in implementing and evaluating individualized curriculum materials	State Division of Community College and Career Education	23
The administrator's role in implementing innovative instructional materials (3 workshops)		
Program for Vocational and Technical Education Curriculum Specialists		
Interuniversity Vocational-Technical Teachers Education Conference on Ohio State Center-Developed Simulation Materials		25
Instructional System Design	Ohio State Univ.	
In-service Education of Vocational Agriculture Teachers on New Curricular Materials for Adult Class Instruction	Ohio State Univ.	370
. Evaluation		
Evaluation of a Training Program for Vocational and Technical Education Administrators		
Maintaining Quality Vocational Education Programs Through Administration Awareness and Commitment	Ohio State Dept. of Education	
. Individualized instruction		
How to Individualize Instruction Through Program Development	Los Rios Community College District	100
Staff Development Workshop for Selected Educators: Individualizing Instruction--Sanford Phase	Occ Division OSPI	136
Preparation of cadre leaders to conduct in-service in implementing and evaluation individualized curriculum materials	State Division of Community Colleges and Career Education	23
In-service workshop for Central Oregon Community College--Individualized Instruction		18
Training for individualized instruction--8 workshops		95
Training for individualized instruction (11 workshops, elementary and secondary)		121

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
10. Specific vocational fields (agriculture, home economics, including skill training)		
California Teacher Training Workshop and Work Exp. Prog. in Hospitality Education	San Francisco Community College	89
Professional Development Series for Work Experience Education	California State Polytechnic College	830
Preparing and Implementing Behavioral Objectives for Programs of vocational education in Agriculture	California State Polytechnic College, Pomona	30
Concentrated pre- and in-service preparation of first-year trade, technical, and health occupation teachers	Univ. of Georgia	
Institute for business education personnel on computer technology	Univ. of Georgia	
Health Occupations	Univ. of Illinois	19
Environmental Occupations--Training Phase	Chicago State Univ.	5
Environmental Maintenance--Training Phase	Southern Illinois Univ.	5
Health Occupations--Training Phase	Univ. of Illinois	17
Preparing Leaders and Teachers in Allied Health Occupations		
Teacher training to improve the teaching of recruited teachers of vocational trade and industrial classes		
Program for Up-Grading Professional Competencies of Auto Mechanics Instructors	Oklahoma State Division of Vocational and Technical Education	125
Staff Development for Instructors of Health Occs Ed. Programs through In-service Continuing Education	Oklahoma State Univ.	170
Training Program for Teachers from Home Economics, Business and Office, Distributive Education, and Health Occupations in Methods and Procedures of Team Teaching	Oklahoma State Division of Vocational and Technical Education	9
In-service workshops: Automotive, Hydraulic, Chainsaw Maintenance		40
Health Occupations Staff Development Workshops		
Organization of a home economics in-service class		
Industrial Mechanics in-service workshop		20
Organization of 2 cooperative education techniques in-service courses		

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
10. Specific vocational fields (agriculture, home economics, including skill training) (continued)		
National Restaurant Association Institute for Foodservice Occupations and Commercial Foodservice Teachers		33
Continuation of a Pilot Program for Preparing Leaders and Teachers in Allied Health Occupations		96
A Training Program to Prepare Industrial Personnel to Become Teachers of Trade and Industrial Education		
In-service Teacher Education Program for Business and Office Education Graduates from Technical Level Schools of Public Education	Bowling Green State Univ.	
In-service Teacher Education Program for Business and Office Education Graduates from Technical Level Schools of Public Education	Kent State Univ.	
Intervocational Education Program in the Commonalities in Vocational-Technical Education Preparation		
Development of a Home Economics Teacher Education Program for the Teaching of Consumer Education		
Development of a Model Two-Year Teaching Preparation Program to Provide the Essential Professional Competencies Necessary for Teachers of Agriculture in the Eight Major Off-Farm Instructional Areas of the Ohio Agricultural Education Program	Kent State Univ.	30
Implementation of Consumer Education Curricula by Selected Ohio Educators	Ohio Dept. of Education	140
Advanced Testing, Refinement, and Conduction of the Two-Year Model Teachers Preparation Program to Provide the Essential Professional Competencies Necessary for Teachers of Agriculture in the Eight Major Off-Farm Instructional Areas of the Ohio Agriculture Education Program	Kent State Univ.	
In-service Education of Vocational Agriculture Teachers on New Curricular Materials for Adult Class Instruction	Ohio State Univ.	370
Influence of Skill Training on the Time Invested in Vocational Education by Educators	Oklahoma City Public Schools	30
Home economics course needs assessment survey		

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
11. Special needs		
Training teachers to involve all students more effectively (especially disadvantaged) in effective Future Farmers of America Programs	California State Polytechnic College	75
Vocational Business Education and Multicultural Pupils	San Jose State College	50
In-service Training for Vocational Education Personnel in Programs for the Handicapped	Cerritos College	100
How Can We Most Effectively Serve the Handicapped in Vocational Education	Fresno State College	270
Training program for teachers and other school personnel working with disadvantaged and handicapped youth in special projects	Georgia Southern College	
Institute for secondary-school-level business education teachers to implement an office program for disadvantaged and handicapped students	Georgia State Univ.	
Institute and follow-up activities for secondary school curriculum interlocking teams of vocational and academic teachers and coop vocational and academic education coordinators to work with and serve the disabled and handicapped students	Georgia Southern College	
Institute to prepare postsecondary vocational-technical school teachers to operate learning evaluation laboratories for disadvantaged students	Univ. of Georgia	
In-service training of teachers of the disadvantaged	Roosevelt Univ.	100
One program developed for teachers of disadvantaged youth		
One three-day workshop for teachers of special needs youth		
A year-long in-service program for vocational teachers to provide training for handicapped youth in the regular classroom		
Sensitizing Vocational-Technical Professional Personnel to the Characteristics and Needs of the American Indian		40
Training Institute for Teachers working with Handicapped Students		28
National Conference for Planning of In-service Programs for Teachers of American Indian Students		

TABLE A (continued)

Subject and Title or Description	Sponsor	[illegible]
11. Special needs (continued)		
Teacher Training Program for New Directions in English Education for Secondary School students (Vocational and Employment-Bound students)	Oklahoma City Schools and State Dept. of Education	29
Preparing Community College Instructors to Work Effectively with Handicapped Students		
In-service for Community College in Teaching Disabled and Handicapped		
Better Serving the Disabled and Handicapped student (for trade and industry instructors)		
Disabled and Handicapped Workshops (3 series)		60
Statewide Community College Disabled and Handicapped Competence Survey		
Organization of Disabled and Handicapped Task Workshop		20
Workshop for Identification of and Providing Educational services for Handicapped Vocational students		35
Preparing Teachers to Teach the Disadvantaged and Handicapped		
Preparing Teachers to Teach the Disadvantaged and Handicapped	Kent State Univ.	60
Identification of Professional Competencies Necessary for Teachers of Disadvantaged and Handicapped Youth	Kent State Univ.	
An On-site Workshop and Conference Within Region V to Share and Exchange Successful Programming and Services Provided to Disadvantaged and Handicapped Persons	Ohio State Dept. of Education	
Cupona's Staff Development In-service Program		60
12. In-service training for State staff		
Concentrated in-service program for State staff (selected local vocational education administrators also participated)	[illegible]	
Four separate seminars on Management by Objectives for selected State and local vocational administrative staffs	[illegible]	
State Staff Management and In-Service	Arnold & Associates	100
Management by Objectives for State Supervisors and Local Vocational Administrators		54
Management by Objectives, Special Project: Orientation of State Department Staff to Management by Objectives		77

TABLE A (continued)

Subject and Title or Description	Sponsor	No. of Participants
12. In-service training for State staff (continued)		
Conference on Legislation for Vocational Education		85
Development of, and Training in, the Use of a Management Information System by the State staff	Ohio State Univ.	150
Career Education In-service Development Through Process Reflection	Ohio State Dept. of Education	25
Development of, and Training in, the Use of Local Education Agency Plans by State Staff	Ohio State Univ.	
An On-Site Workshop and Conference Within Region V To Share and Exchange Successful Programming and Services Provided to Disadvantaged and Handicapped Persons	Ohio State Dept. of Education	
Regional In-service Training Program for State Staff Professional Personnel for Vocational Education	Ohio Dept. of Education	72+
13. Supply and demand		
One program was funded to recruit teachers into vocational education		
Another program was funded to recruit teachers into vocational education, zeroing in on recruiting minority personnel		
A Study of Professional Personnel Needs for the State of Oklahoma		
Project aimed at recruiting occupationally competent, effective vocational instructors	Portland and Lane Community Colleges	63
14. Other (including general vocational education)		
Statewide Consortium to Conduct In-service Training for Vocational Educators	Pasadena Area Community College District	516
Proposal for a Pilot Program for the Development of a Master's Degree in Vocational Education for the California State College System	California State College, Long Beach	36
Vocational Development for Schools, Community, and College	San Jose State College	30
Application of New Techniques for Improving the Effectiveness of Vocational Education Programs	San Diego Unified School District	48
Advanced Training in the Use of Performance Objectives	UCLA	40

TABLE A (concluded)

Subject and Title or Description	Sponsor	No. of Participants
14. Other (including general vocational education) (continued)		
More Effective Staff Utilization	Chicago Board of Education	25
Data Processing Institute	Western Illinois Univ.	40
Technical Assistant Personnel	Southern Illinois Univ.	2
Writing Measurable Objectives	Borgen-Davis	2
Printing of Applegate Report	State of Illinois	
Workshops for teacher-educators on the role and function of vocational education in the local school setting		200
Technical and Occupational Education Improvement	Murray State College, Oklahoma	20
Internship Program	Colorado State Univ.	
Internship Program		
Competency-Based Vocational Teacher Education		
Internship Program		
Continuation of a Teacher-Training Program for Vocational Education Personnel		22
A Program for the Retrieval, Assimilation, and Dissemination of Information Regarding Vocational Education Programs, Activities, and Projects		
Local Educational Agency Planning to Further Develop a Model for Local School Districts to Use for Program Planning and Development Which Is Compatible with State Planning	Ohio State Univ.	600
Improving Teacher Effectiveness Through a Direct Study of Youth	Great Oaks Joint Vocational School District	150
Development and Implementation of a Model Vocational Personnel Development Center		
How to Develop a Staff Development Plan		20
Development of Two Staff Development Proposals		

Appendix B

EDPA'S PART F, SECTIONS 553 AND 554 PROJECTS AND PARTICIPANTS
IN THE STATE OF OKLAHOMA
1972-74

Tables B-1 and B-2 list EPDA's Part F, sections 553 and 554 projects undertaken by the State of Oklahoma from 1972 through 1974 and the numbers of participants. The information was supplied by the Oklahoma State department of vocational and technical education and is presented in the tables substantially as received. The lists exemplify one concise method of showing projects undertaken, total number of participants for each project, and type (i.e., position or representation) of participants.

TABLE B-1

EPDA'S PART F, SECTION 553 PROJECTS AND PARTICIPANTS
IN THE STATE OF OKLAHOMA
1972-73

Projects	Participants*
Special projects	
A Model To Improve Preservice Programs in Vocational and Technical Teacher Education	525 persons as follows: 25 Oklahoma State Univ. vocational-technical teacher-educators; 500 [illegible]service Oklahoma State Univ. [illegible]al-technical students
A National Conference for Planning of Inservice Programs for Teachers of American Indian Students	60 participants fr[illegible] the top 19 States in the Nation in Indian population. Participants included EDPA coordinators, teacher-educators, and secondary teachers, along with vocationa - technical leaders.
Regular projects	
Continuation of an Industry/School Exchange Program	22 secondary and postsecondary vocational-technical teachers
Continuation of Management by Objectives for Vocational-Technical Personnel	500 vocational-technical teachers and administrators from 12 area vocational and technical schools, and 2 comprehensive high schools
Continuation of a Pilot Program for Preparing Leaders and Teachers in Allied Health Occupations	96 secondary and postsecondary teachers of health occupations
Continuation of a Teacher-Training Program for Vocational Education Personnel	22 new and recruited persons who had not previously taught or who had not taught for more than one year
A Workshop to Improve Guidance and Counseling in Public Schools	51 participants as follows: 18 secondary teachers, 9 elementary and secondary administrators, 15 counselors, 7 graduate students, and 2 teacher-trainers
A Project Designed to Define the Role of Industrial Arts in Career Education in Oklahoma	400 vocational-technical teachers, principals, and other educational leaders
The Effect of Skill Training on the Career Education Practice of Counselors	15 secondary school counselors
Inter-University Vocational-Technical Teachers-Education Conference on Ohio State Center Developed Simulation Materials	25 vocational-technical teacher-educators
Total	1,716

*All participants were from Oklahoma except where indicated otherwise.

TABLE B-2

EPDA PART F, SECTIONS 553 AND 554 PROJECTS AND PARTICIPANTS
IN THE STATE OF OKLAHOMA
1973-74

Projects	Participants*
A Workshop to Promote Understanding of Vocational, Technical and Career Education among Secondary School Principals	85 secondary school principals
A Teacher-Training Program for New Directions in English Education for Secondary School Students (Vocational and Employment Trends and Needs)	20 secondary English teachers
Workshops for Teacher Educators on the Role and Function of Vocational Education in the Local School Setting	164 teacher-educators representing all teacher-education institutions in Oklahoma and all levels and types of preservice teacher-education programs. In addition, a number of EPDA section 553 graduate students and State department of vocational-technical education staff attended
Technical and Occupational Education for Women	20 faculty members of Murray State College representing all disciplines of the college
A Study to Identify Professional Competencies of Auto Mechanics Instructors	54 auto mechanics instructors from areas of trade and industry, industrial arts, and manpower
Education for Parenting and Child Development: A Training Program for Developing Teacher Competencies	24 secondary vocational home economics instructors
The Influence of Skill Training on the Time Investment in Vocational Education by Educators	30 secondary educators as follows: 10 counselors, 10 principals, and 10 language arts teachers
In-service Training for Vocational Technical Teachers in the Use of Instructional Materials Developed by the Curriculum and Instructional Materials Center	308 secondary vocational and technical teachers representing all vocational disciplines
Staff Development for Instructors of Health Occupations Education Programs Through In-Service Continuing Education	170 instructors of State-approved health occupations programs
A Training Program for Teachers from Home Economics, Business and Office, Distributive Education, and Health Occupations in Methods and Procedures of Team Teaching	9 area vocational and technical school instructors from HEC, B&O, DE, and HOE

*All participants were from Oklahoma except where indicated otherwise.

TABLE B-2 (concluded)

Projects	Participants*
A Training Program on the Use of Information Systems	405 participants as follows: 25 State and district supervisors, 35 CVET teachers, 65 DE teachers, 40 new T&I teachers, 220 teachers representing all vocational disciplines, and 20 division secretaries
Teacher-Training Program for New Vocational and Technical Teachers	22 persons who had not previously taught vocational and technical education
A Continuation of an Industry School Exchange Program for the Development of Education Personnel	41 secondary and postsecondary vocational and technical teachers
Workshop for the Development of Career Education in Counselor Education Programs in Oklahoma	33 educators as follows: 13 vocational-technical teacher-educators, 12 counselor educators, and 8 counselors
Orientation for Public School Administrators on the Role of Industrial Arts and Vocational Education in Career Education	54 secondary school administrators
Management by Objectives, Special Project Orientation of State Department Staff to Management by Objectives	77 persons as follows: 57 staff personnel from 16 different State departments of vocational-technical education, 17 Oklahoma State Univ. [illegible] section staff personnel, and 3 city government staff
Conference on Legislation for Vocational Education	85 vocational-technical personnel as follows: 25 area vocational-technical administrators, 30 secondary vocational-technical teachers, and 30 State staff personnel
Workshop for Identification of and Providing Educational Services for Handicapped Vocational Students	38 secondary vocational-technical teachers representing all occupational areas
National Restaurant Association Institute for Foodservice Occupations and Commercial Foodservice Teachers	38 foodservice teachers, 6 of whom were from out of State
Total	1,537

*All participants were from Oklahoma except where indicated otherwise.

Appendix C

EPDA'S PART F, SECTION 552 GRADUATE DISSERTATION TITLES, BY CATEGORY

Table C-1 lists titles of dissertations completed or in progress by graduates of the initial 3-year EPDA Section 552 Program. Categorization into completely separate subjects is not exact and there is some overlap. However, the 15 categories used here will indicate the research interests pursued by the doctoral students of the EPDA section 552 Leadership Development Program.

The titles were supplied by the 11 universities studied. The titles listed may not include all dissertations completed or in progress by the section 552 participants, but the table contains all the information received. Authors' names and their institutions are omitted.

TABLE C

EPDA'S PART F, SECTION 552 GRADUATE DISSERTATION TITLES
BY CATEGORY

Administration and Supervision

The Feasibility of Implementing a Basic Planning, Programming, and Budgeting System Within the Technologies and Pre-Engineering, and Business Instructional Areas of Nicollet College and Technical Institute, Wisconsin's Pilot "Dual-Track" Institution

Student and Faculty Perceptions of Organizational Variables and Supportive Relationships Within Two Illinois Community Colleges

The Identification of Competencies of Local Directors of Vocational Education in West Virginia

Relationship Among Selected CVAE Coordinator Characteristics and Student Perceptions of Instruction

Using a Systems Approach in the Development of a Correspondence Course on the Topic of Leadership Development for Vocational Educators

Identification of Role and Function for Proposed Research Utilization Specialists in Vocational-Technical Education

Communications Flow Between State and Local Administrators

Functions of Local Directors of Vocational Education in the Southern Regions

Director Behavior and Staff Morale

The Relationship Between Vocational Needs-Occupational Reinforcer Correspondence and Job Satisfaction of Minnesota Secondary School Office Education Teacher Coordinators

Profiles of Executive Leaders of Public Community Colleges With Practical Arts Education Backgrounds

Collaboration for Planned Organizational Changes in a State Vocational Education Agency

Simulation Analysis of Policy-Making Decisions in Education

The Association Between Local School Administrators and Counselors; Attitudes Toward Vocational Education and Selected Characteristics of Their Students Attending a Vocational-Technical School

A Study of the Educational Background, Educational Philosophy, and Social Attitudes of Area School Administrators in a Five-State Region

A Study of the Effects of Two Organizational Variables on the Perceived Need Satisfaction of Community College Vocational Administrators of Four Western States

The Development and Validation of a Model for Personnel Management in Local Education Agencies

Planning Occupational Education Programs

A Survey of EPDA 552 Awardees to Assess Content Emphasis in Vocational Leadership Training Programs

A Study of Perceptions Held by Local Education Agency Personnel Responsible For Occupational Education

Role Perceptions of Occupational Education Administrators

Administrative Evaluation--Community College

TABLE C (continued)

Administration and Supervision

Functions of the Director of Occupational Education in North Carolina as Perceived by Superintendents of Schools

Functional Analysis of the Tasks Performed by Coordinators in the Operations of the CVAE Program

An Assessment of Participants' Progress in Education Professions Development Act Vocational Education Fellowship Program

The Identification of the Processes of Vocational Education Administration

Advisory Councils

An Analysis and Comparison of Selected Factors in the Operation of Crafts/Occupational Advisory Committees

An Analysis and Comparison of Selected Roles for State Advisory Councils on Vocational Education

A Study of Selected Practices in the Use of Advisory Committees, Community Surveys and Placement Services in Trade and Industry Education Programs in Ohio

The Utilization of Program Area Advisory Committees in North Carolina as Perceived by Vocational Education Teachers

Business Industry and Education Relationships

Comparative Effects of Education and Management Experience on Values Among Business Administration Students, Faculty, and Corporate Managers

Attitudes Change Toward Work as a Result of Participation in General Work Experience

An Interest Inventory of Agri-Business Managers

A Comparison of Methods Preparing Youth for Employment: Cooperative Vocational Education vs. In-School Vocational Education

New Car Dealers of Service and Repair Trainees Who are Graduates of High School Vocational Programs

Labor Market Characteristics of Illinois [illegible] Occupational Instructors

Effectiveness of Cooperative Vocational Education as Perceived by the Employer and Coordinator of Cooperative Vocational Education Students at the Secondary Level

A Study of Employer and Employee Opinion on the Adequacy of Training of Vocational-Technical Students at Texas State Technical Institute

Analysis of Opinions of Teacher-Coordinators, Administrators, and Guidance Counselors Concerning Cooperative Vocational Education

Attitudes of Job Preparation Held by Students in Training and Employed Graduates

Overall Job Satisfaction and Its Relationship to Specific Job Related Needs, As a Basis for Occupational Grouping

TABLE C (continued)

Career Education Development

Program Planning--Administrative and Organizational Changes Within School Systems That Resulted from the Implementation of Career Education

Identifying the Responsibilities That Are Common to a Program Manager in Career Education

The Feasibility of Implementing a Career Education Program Within the Division of Business and Industry at Bemidji

The Development of a Problem Solving, Self-Concept-Based Career Development Guide

The Effects of Career Orientation on Vocational Interests and Occupational Plans

Business Mathematics Achievement and Career Objectives

Career Education: A Process Evaluation

A Study to Identify and Measure Major Problems Encountered by Youth Making the Transition From School to Work as Perceived by Youth, Parents, Cooperative Work Experience Coordinators, and Employers

Selected Factors Related to Occupational Preference of Students in Large Metropolitan High Schools

The Association Between Varying Degrees of Vocational Trade and Industrial and or Technical Education on the Subsequent Early Career Patterns of High School Graduates

Career Education: Opinions of California Teachers--Senior High School Level

Career Education: Opinions of California Teachers--Junior High School Level

A Comparative Analysis of Representative Career Education Concepts and Selected Statements As Responded to by Rhode Island Superintendents

An Analysis of the Effect of Short-Term Career Exploratory Programs on Selected Aspects of Vocational Development

An Analysis of the Effects of Two Occupational Information Systems on the Vocational Maturity of Senior High School Students

Analyses of Decision-Making Processes Related to Career Education as Employed in the House of Representatives Committee on Education and Labor

Evaluation of an Experimental Career Education Program for High School Sophomores

Leadership Roles and Training Needs in Career Education in Minnesota

Attitudes of School Management Personnel in Illinois Toward Career Education

Perceptions of Administrators and Teachers Involved in a Career Education Project

Career Choices in Business Mathematics

Career Education: Opinions of California Teachers--Elementary School Level

An Assessment of Selected Factors of Affective Change and Student Perceptions of Instruction Coinciding with the Implementation of Elementary Career Education Programs

TABLE C (continued)

Certification/Degree Programs

A Basic Assessment of the Accrediting Instruments, Activities, and Procedures Used by the Commission of Occupational Education Institutions of the Southern Association of Colleges and Schools

An Analysis of the Perceptions of Selected Pedagogical Competencies of Trade and Industrial and Vocational-Technical Teachers in Ohio

Evaluation of Trade and Industry Teacher Preparation Program at State University College in Oswego, N.Y.

Elements in the Preparation of Community Teachers in Colorado

Microteaching Techniques Utilized by Industrial Arts Teacher-Education Programs

Credentialing Technical Teachers

Counseling and Guidance

The Role of the Guidance Counselor as Perceived by Vocational Counselors and Regular Counselors in Texas

Role and Function of Special Services

Attitudes of Guidance Counselors Regarding Vocational Education

Role and Function of Vocational Counselors

Curriculum

Curricula Organization and Content for the Preparation of Teacher-Coordinators of Cooperative Vocational Education Programs

Attempting to Relate to Organization and Development of Curriculum Centers for Vocational Education

Testing the Value of Silent Super 8mm Single Concept Loop Films as an Aid to the Acquisitions of Manipulative Skills in the Machine Trades

Evaluation

The Effects of Four Rates of Oral Presentation on the Knowledge, Comprehension, and Application Scores of Post-Secondary Vocational Students at Three Reading Levels

Effectiveness of the Talkback and Group Discussion in Supplementing Educational Television in Teaching Consumer Education to Employees of Welfare Agencies

A Model for the Evaluation of the MDTA Skill Center, Clark-Stone [illegible] Program for Appalachia

The Impact of a Federally Assisted Vocational Facility Project in a Selected Community

Advance Knowledge Effects of Performance Objectives

An Investigation of Course Productivity at Various Levels of Instructional Systems Development in the Community College

The Year-Round School: A Study of the Economical, Educational, and Methodological Benefits

TABLE C (continued)

Evaluation

Preferred Job Reinforcers and the Job Satisfaction of Minnesota's AVTI Facilities

Instructor Performance Appra[illegible] in Community Colleges

Shared-Time Programs in Area Schools

A Programmed Experimental Study

An Investigation of Selected Characteristics of Secondary Occupational Students in Selected Area Vocational Centers and Comprehensive High Schools

A Sociometric Study, Through Histrionism, of the Relative Impact of Physical Attractiveness on the Employment Probability of Office Personnel

Influence of Feedback From Student Evaluations of the Instructional Process on Teachers' Behavior

An Analysis of the Tasks Performed by Local Supervisors in Vocational Business and Office Education

Impact of the Illinois Three-Phase Evaluation System

A Study of Selected Characteristics of Teachers in Illinois Secondary Area Vocational Centers

Academic Success Patterns of Native and of Transfer Students in Selected Associate Degree Technology Programs

Implications for Organizational Change: A Survey of Student Perceptions of Alternative and Parallel Vocational Training Program Instructional Climates

A Comparison Between an Automated Method and Two Conventional Methods of Data Collection for Vocational Student Follow-Up Studies

Teachers Perceptions of Social Relationships in Selected County Vocational Schools in the State of New Jersey

Individualized Instruction

The Influence of Reinforcement on the Achievement and Attitude of Disadvantaged Learners Using Individualized Learning Packages

The Design, Development, and Testing of an Experimental Individualized Learning System

The Development of Inventories to Ascertain the Presence or Absence of Characteristics and Facilitators of Individualized Instruction

Performance Tests in Individualized Instruction

Rural Vocational Education

The Role of the Vocational Teacher as Perceived by Three Groups: Non-Teacher, New Teacher and Experienced Vocational Teachers

Factors Inhibiting the Development of Vocational Education

An Analysis of the Changes in the Image of Vocational Education in Kentucky as Perceived by Selected Groups

Attitudes Toward Vocational Education

Vocational Education in the State of California

TABLE C (continued)

Specific Vocational Fields

The Relationship of Exploratory Work Experience to the Success and Persistence of Students Who Completed Health Education Programs

Selected Variables Relative to Persisting and Non-Persisting Students in Two-Year Registered Nurse Programs in Oklahoma

Acquisition and Replacement of Equipment for High School Business Education Laboratories

The Business Mathematics Needs of Community/Junior College Business Majors

The Effectiveness of a Laboratory and Multi-Media Instruction Technique as Compared to the Conventional Lecture-Demonstration Method of Teaching Carburetion to Tenth-Grade Students

Selected Business Education Curriculum Standards and Practices in United States Public Secondary Schools, 1971-72

The Assessment of Academic Potential for Progress and Success in Two Options of the Business Office Education Program

A Study of the Whole Job (Multi-Position) Approach as Compared to the Traditional (Single-Position) Approach in the Development of Arc-Welding Skills

Development and Demonstration of a Direct, Inductive Method of Health Education Needs Assessment

Effects of Repetition and Alternating Levels of Practice on Learning to Typewrite

Development and Evaluation of a Game for Teaching Collegiate Accounting

An Analysis of the Changes in Business Education in the Public Junior High Schools of Ohio Since Passage of the Vocational Education Acts of 1963

A Competency Pattern Approach to Development of Curriculum Models for Secondary School Agricultural Occupations Programs

Personality Characteristics of Student Teachers in Agriculture Education at Oklahoma State University 1969-1973

A Comparison of Three Methods of Teaching Business Subjects for Job Entry in Memphis High Schools

A Comparative Study of Permanent and Mobile Vocational Electronics Classroom Units in New Mexico and Colorado

Identification and Analysis of the Current Issues in Health Occupations Education

A Factor Analysis of the Occupational Competence of Vocationally Certified Teachers of Business Education Subjects

Effects of Simulation on Interpersonal Relations of High School Business Students

Organizational Structures and Opinions--Health Occupations Programs

Competencies Needed by Trade and Industry Teachers in Colorado

The Comparative Effectiveness of Data Processing Programs in Proprietary and Public Post-secondary Institutions

Related Programs in Agriculture Education in Cameroun and Uganda, Africa

Professional Education Needs of Teachers in Health Occupations Education

An Analysis of Competencies in Secondary Consumer Home Economics Programs

An Analysis of Data Processing Occupations

TABLE C (continued)

Specific Vocational Fields

Reactions to Auto Mechanics Training

Criteria for Admission to Undergraduate Distributive Teacher-Education Programs

Special Needs

An Analysis of Selected Factors Related to Rehabilitation Outcomes and Job Satisfaction of Disabled Persons Served by The Oklahoma Division of Vocational Rehabilitation

An Exploration of the Personal, Social, Educational, and Employment Characteristics of Male Inmates Entering the Illinois Penal System

Derivation and Initial Assessment of the Occupational Education Component of a Total Model Educational Program for the Department of Corrections, New York State

[illegible] Colleges Faculty Perceptions of Academically Disadvantaged Students and Factors Related to the Perceptions Held

A Study of the Relationship Between Correctional Education and Training of Inmates and Their Parole Success

Vocational Education in State and Federal Adult Correctional Institutions in the United States

Attitude of Blacks Toward Vocational Education

A Comparison of the Educational and Occupational Aspirations and Expectations of Black Secondary School Students in Career Education Programs With Black Secondary Students Not in Career Education Programs

A Descriptive Study of the Coordinator and His Perception of Teacher Competencies in Cooperative Programs for the Handicapped in New Jersey Secondary Schools

Perceptions of the Nature and Scope of Adult Vocational Teacher-Education Needs as Held by Adult Students, Teachers, and Coordinators of Adult Education in Oklahoma Area Vocational-Technical Centers

Youth With Special Needs in the Columbus Public Schools

The Validity of the Nonreading Aptitude Test Battery for Educable Mentally Retarded Students

The Effects of an In-School Career Orientation Program on the Vocational Interests and Tentative Occupational Selection of Black Disadvantaged Adolescents

Program Planning for Recruiting and Training Minority Group Vocational Education Teachers Through the University of California at Los Angeles

A Refinement of the Attitude Toward Disabled Persons Scale and to Reduce Fakability and Increase Sensitivity of Change Measurement

Factors Influencing Non-White Participation in Apprenticeship Programs in Selected Building Trades Unions in New Jersey

TABLE C (continued)

Special Needs

A Study of Selected Factors Associated With the Participation in Employment of Rural Low-Income Adults

The Effectiveness of a Vocational Education Program in Rehabilitating Incarcerated Youth

A Pilot Study of the Perceptions of Secondary and Post-Secondary Deaf School Teachers Toward Career Education Goals

The Interrupted Career: An Intermediate Model

Colorado Sheltered Workshop Programs

Staff Development

Teacher-Pupil Attitudes and the Effect of In-Service Training on This Relationship

An Analysis of Minnesota In-Service Distributive Education Teacher Coordinator Perceptions of Their Professional Development Needs

In-Service Staff Development of Local Vocational Teachers and Leaders

Identification of In-Service Staff Development Needs in Career Awareness for Portland and Seattle Elementary Schools

Relationship Between Vocational Education Teachers' Pupil Control Ideology and Their Classroom Behavior

An Investigation of Dogmatism and Expectations of Students as Evidenced by Vocational and Non-vocational Teacher Trainees

Supply and Demand

The Development of Guidelines for Professional Recruitment Programs in Agricultural Education

Vocational Education Preferences of Senior High School Students in a Four-County Area of Florida

The Relationship Between Pupils Perceptions of Program Availability in Vocational Education and Their Expressed Needs for Vocational Education in Two Small School Districts

Determining the Vocational Education Needs of Adults in South St. Paul, Minnesota

Other

A Correlation of Selected Personality Characteristics to Behavioral Problems of Students in an Integrated Secondary High School

A Comparison of Mobile Home Dwellers With Conventional Home Dwellers and Their Effects on Education

Proximity Theory and Information System Acquisition Techniques

Developmental Patterns of Students Attitudes Toward the World of Work and Relationships Between Selected Correlates

TABLE C (concluded)

Other

The Relationship Between Participation in Vocational Student Organizations and Student Success

American Greek Education: Theory, Curriculum, Practice

The Land-Grant Concept in Contemporary Society: Anachronism or Viable Entity?

A Study of Selected Non-Intellectual Variables Among Groups of Technicians in a Technical Institute

Implications of the Year-Round School Concept for Secondary Area Vocational Centers

Student Perceptions of Instruction as a Function of Teacher Change Orientation and Student Feedback: An Exploratory Study

Causal Analysis and Projection of Accidents in Selected North Carolina Community Colleges and Technical Institutes, Using OSHA Standards as the Basis