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The Vocational Education Act of 1963 represented the first reconsideration of vocational education since 1917, and was the immediate product of a panel of consultants who found that vocational education was insensitive to changes in the labor market and to the needs of the various segments of the population. This report, an evaluation of that act, is part of a larger project to evaluate federal manpower policies and programs, and much of the data and evaluation is similar to that found in the congressional report (VT 007 877). The report covers: (1) Origin and Achievements of the 1963 Act, (2) The Status of Vocational Education, (3) Innovations in Vocational Education, and (4) Reorienting Vocational Education. This last section includes the five operational principles drawn up by the Advisory Council on Vocational Education, and their recommendations for a system of employment based on these principles. (FP)

Reorienting Vocational Education

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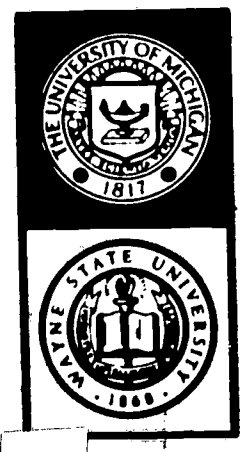
HUMAN RESOURCES AND
INDUSTRIAL RELATIONS
No. 7

Garth L. Mangum



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The University of Michigan
Wayne State University

A Joint Publication with the National Manpower Policy
Task Force

REORIENTING VOCATIONAL EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

This evaluation of the results of the Vocational Education Act of 1963 is part of a larger project to evaluate federal manpower policies and programs directed by the author under a grant from the Ford Foundation.

Information for the evaluation grew out of my participation as a member of the Advisory Council on Vocational Education appointed in 1966 as required by the Act and reporting to the Secretary of Health, Education, and Welfare, the President and the Congress in January 1968. Much of the data and evaluation is therefore the same as that to be found in "Vocational Education: The Bridge Between Man and his Work, Highlights and Recommendations from the General Report of the Advisory Council on Vocational Education" and "Vocational Education: The Bridge Between Man and his Work, General Report of the Advisory Council on Vocational Education," in *Notes and Working Papers Concerning the Administration of Programs Authorized Under the Vocational Education Act of 1963, Public Law 88-210, As Amended*, prepared for U.S. Senate, Committee on Labor and Public Welfare, Subcommittee on Education, 90th Congress, 2nd Session, March 1967. However, the official data gathered for the council report have been supplemented by data and findings from other sources published and unpublished. The results of this evaluation do not vary significantly from those of the Advisory Council on Vocational Education beyond the differing emphasis any single member might have given within a

committee effort. Yet the additional data, the sharpening of some issues, the relative obscurity of the congressional publication, the availability to a different audience and the completion of a series merit publication of this monograph.

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April 1968

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INTRODUCTION

The focus of federal manpower policies and programs during the 1960's can be illustrated by the changing relationship between preventive and remedial programs. In 1961, $50 million was appropriated for vocational education, primarily to supply skills for new entrants to the labor market, compared to $10 million to remedy the employment handicaps of those facing various disadvantages in competing for jobs. By 1968, not only had total manpower expenditures increased eight-fold, but the balance had shifted dramatically. Vocational education was getting more than $250 million per year from the federal treasury, but remedial skill training, work experience and adult basic education programs were receiving $1.8 billion. It was hoped that general education measures such as Head Start and the Elementary and Secondary Education Act could, among other goals, be long-run preventives for employment problems. However, of all the manpower legislation of the 1960's, only the Vocational Education Act of 1963 had as its immediate objective prevention of the influx of unprepared youth into the labor market.

The crisis nature of the policies of the decade is illustrated by the balance between prevention and remediation. However, the gap between intention and achievement is more often wide than narrow. The intent of the Vocational Education Act of 1963 was no less than a reorientation of the traditional emphasis from filling the requirements of the labor market to meeting the needs of people. Whether the reorientation has, indeed, been accomplished, what is the current status of vocational education and where the program appears to be headed are the subjects of this paper.

ORIGIN AND ACHIEVEMENTS OF THE 1963 ACT

The Vocational Education Act of 1963 represented the first basic reconsideration of vocational education since 1917. In the latter year, Congress provided $7 million per year in matching grants for training in agriculture, home economics and "trade and industry" occupations. By 1963, distributive education, practical nursing, fishery occupations and technical training had been added to the list of occupational categories, and federal appropriations for vocational education had increased to $55 million. However, the nature of the program remained unchanged—federal matching grants were made available to the states to be spent in specified amounts for training in each of the seven occupational categories with a minimum of federal direction or involvement.

The immediate motivation for the 1963 Act was the high level of unemployment among untrained and inexperienced youth. Longer term criticism alleged a failure to change occupational emphases in keeping with an increasingly sophisticated technical economy. More dimly recognized, but implicit, was the growing need for formal preparation for employment.

The 1963 Act was the immediate product of a Panel of Consultants on Vocational Education established at the direction of President John F. Kennedy in 1961. The Act's contributions and future needs cannot be evaluated apart from consideration of the general status of vocational education.

Findings of the Panel of Consultants

The panel of consultants, after more than a year of deliberation, concluded that vocational education was guilty of two

cardinal sins: It had been insensitive (1) to changes in the labor market and (2) to the needs of various segments of the population.[1] Enrollment in vocational courses of 1 in 5 high school students and 2 percent of the post-secondary labor force was considered inadequate in view of existing and projected needs. Low enrollments in urban centers were especially disturbing. Little was being done to serve youths whose socio-economic or academic handicaps made it difficult for them to profit from the regular programs. Vocational education was neither retaining potential dropouts nor preparing them for employment.

Post-secondary programs were being neglected despite the higher skill and upgrading needs dictated by technological change. The range of occupations for which training was available was limited, and the content of the training was narrow. The distribution of enrollments did not relate rationally to the distribution of employment opportunities. Nearly two-thirds of vocational enrollments were in vocational agriculture and home economics. There was little training for women's occupations other than home economics. Office occupations did not qualify for federal support. Employment services and vocational schools were in separate worlds. All of the services related to quality—including facilities and equipment, teacher education, counseling and guidance, curriculum materials, research and evaluation—were being neglected.

Investment in vocational education was declared to be "grossly incommensurate with the national interest and federal responsibilities." Financial support was not keeping pace with the needs for a trained labor force. The legislative "patchwork" and absence of long-range planning were censured. The lack of data available to the panel for evaluation of vocational education was sharply criticized: "Little or no evidence has been gathered regarding the results or effectiveness of the instruction given, and various rationalizations and

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[1]Department of Health, Education, and Welfare, *Education for a Changing World of Work,* report of the Panel of Consultants on Vocational Education (Washington: U.S. Government Printing Office, 1963) pp. 206-14.

excuses have been offered over the years for inadequate program statistics." The panel pointed out that an earlier Advisory Committee on Education in 1938 had also strongly censured the inadequate reporting system. "Obviously," said the panel, "this major weakness has not yet been corrected."[2]

Objectives of the Vocational Education Act of 1963

Congress declared the objective of the Vocational Education Act of 1963 was the employment preparation of four groups of people rather than the labor market demands of various occupational categories. It included:

> . . . persons of all ages in all communities of the State—those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps—will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.[3]

Federal funds were increased four-fold and could be used to prepare individuals for gainful employment in any non-professional occupation.

However, objectives are achieved by allocation and application of resources, not by declarations of intent; and Congress, though it authorized and appropriated the funds, failed to put its money where its mouth was. Neither "carrots" nor "sticks" were provided to influence expenditure patterns. The Smith-Hughes and George-Barden Acts were retained with their traditional occupational categories. Their relatively

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[2]*Ibid.*, p. 213.

[3]U.S. Congress, "Vocational Education Act of 1963," Public Law 88-210, 88th Cong., 1st Sess., 1963.

small amounts of money could be transferred among the seven categories and outside them to serve the VEA '63 target groups, but such transfers were not required. Ten percent of home economics funds were to be spent in training for gainful employment. Vocational agriculture could—but need not—include training for occupations related to but outside of commercial agriculture. VEA '63 funds were not held to the traditional areas, but they were not restricted from them. All uses of federal vocational education funds, except research, were governed by the same 50-50 federal-state matching formula.

Also in the permissive category were national and state advisory councils, and joint involvement of vocational schools and state employment services in determining labor market needs and in placing vocational education graduates. The U.S. Commissioner of Education was given authority to approve state plans which were to include periodic reviews of state and local training needs. Ten percent of the authorized funds were to be allocated to research, one-third to a combination of post-secondary education and area school construction and three percent to "ancillary services."

The definition of vocational education was broadened to allow expenditures for guidance and counseling, teacher training and instructional materials. The Act also opened the door to basic and general education where needed to prepare for employment. Thus, new objectives were declared with funds authorized to make possible their achievement. But whether or not the objectives were pursued was left largely to state determination and Office of Education leadership.

The Impact of the 1963 Act

Funds were not appropriated to implement the Act until fiscal 1965. Full reports are available for that year and fiscal 1966, with partial data for fiscal 1967. Two or three years is a short time in vocational education, and too much change should not be expected. However, the time has been sufficient to see which opportunities opened by the new Act have been grasped and which ignored. Unfortunately, among the admonitions ignored, not from the Act but from the 1962 panel's report, was the need for more adequate reporting.

VEA '63 directed the appointment in 1966, and each five years thereafter, of an Advisory Council on Vocational Education to evaluate the administration of the Act and its impact. The first such council, functioning throughout 1967, found its assessment seriously hampered by a lack of data. Not only was the regular reporting system grossly inadequate, but the Office of Education had made no advance preparation to produce special data for the council. No significant changes were made in the reporting forms designed primarily to ascertain that the states matched the federal grants-in-aid and that the moneys were spent within the appropriate occupational categories. The only significant change in the reporting system as a result of the Vocational Education Act of 1963 was the necessity of reporting expenditures and enrollments by service groups. A reporting system originally designed for financial control was being asked to serve as a basis for evaluation, and it was inadequate for this task.

Numerous examples of the reporting system's limitations can be cited, but a few will suffice. Though the Act's philosophy was to refocus efforts on people rather than occupational groups, there are no demographic characteristics beyond the sex of the students. In a day of concern with racial discrimination and poverty, data on age, race, education and family income are not collected. Though groups with special needs were to receive special treatment, there are no data to identify them nor to describe the content of courses allegedly designed for them. If the Act was successful in its intent to encourage training for new occupations, there is no way to isolate them. Enrollment data give no indication of the extent of student involvement. Participation for one or two days a week for a few months is not differentiated from near full-time, full-year attendance.

Data needs are qualitative and descriptive as well as quantitative. The quality of teachers, equipment and course content cannot be determined from the reporting system. Comparisons of relative enrollments and quality and quantity of vocational education in rural areas, small and medium-size cities, suburban areas and large central cities cannot be made. The only measure of results is a report of uncertain validity from a vocational teacher in September on the placement of students who completed a course the previous spring.

An 18-month time lag before publication of the data appears to be standard. Not only is the extent of vocational education not reimbursed by federal funds unknown, there is even great uncertainty as to the total amount spent on federally-reimbursed vocational education. Since states often overmatch the federal dollars, it appears to be common knowledge that much of the total state expenditure is not reported.

A staff member involved in both the 1962 and 1967 appraisals thought the improvement in the data available to the latter group was substantial. Participation only in the later effort leaves one awed by the abysmal state implied for 1962. This evaluation, like that of the Advisory Council in which the author participated, must depend upon the limited official data, fragmentary studies by various researchers, and personal observation and judgment.

Groups and Occupations Served

During the 1966-67 school year, almost 7 million persons attended vocational education classes supported in part by federal grants under the VEA '63, Smith-Hughes and George-Barden Acts (Table 1). This was a 50 percent increase over the 4.6 million of 1963-64. However, training for office occupations became eligible for federal support for the first time under the 1963 Act. There is no way to know how many of the 730,000 reported enrollment increase in 1965 and the 1,240,000 in 1966 comprised net additions to the number trained in business education compared to how many were simply shifted from sole state support to federal aid. Office occupations were one-fifth of the total 1966 enrollment and accounted for more than four-fifths of the increase over 1964 (Table 2). Not including the office occupations, enrollment increases in the first two years following the implementation of the Act were less than during the preceding years. The 1967 increase appears exceptional, but no breakdown by occupational category or by group served is available at this writing.

The 1965-66 enrollment exceeded that of 1963-64 by 42 percent for high school students, 67 percent for full-time post-secondary students and 17 percent for adults attending part time. Numerically, however, only 178,000 post-secondary students and 380,000 adults were added. Enrollment in

TABLE 1

Total Enrollment in Vocational Education
Fiscal Years 1960-1967

Fiscal Year	Total Enrollment	Percentage Increase
1960	3,768,149	
1961	3,855,564	2.3
1962	4,072,677	5.6
1963	4,217,198	3.5
1964	4,566,390	8.3
1965	5,430,611	18.9
1966	6,070,059	11.8
1967	6,880,000*	13.3

*Estimated

Source: U.S. Department of Health, Education, and Welfare.

courses designed specifically for those with special needs was reported as 49,000 in fiscal 1966. The special needs figure does not include the youths and adults from disadvantaged backgrounds enrolled in regular courses. It is a strong indication that little serious effort followed that particular directive of legislative intent. However, enrollments of disadvantaged youths in Manpower Development and Training and Economic Opportunity Act programs with their 90-10 federal-state matching formulas and the Elementary and Secondary Education Act with its full federal funding compared to vocational education's 50 percent formula must be considered for perspective.

Agriculture and home economics together still comprised 46 percent of total enrollments in fiscal 1966. However, vocational agriculture increased only 5 percent between 1964 and 1966, while 12 percent of the enrollments in the latter year were in related off-farm occupations rather than commercial agriculture. Also included were such specialized programs as ornamental horticulture and retail floristry in urban areas. The official reports show home economics declining more than 6 percent between 1964 and 1966 but, apparently, the data are in error and enrollment actually increased slightly. The enrollment in employment-related home economics courses is uncertain, but it is doubtful that

TABLE 2

Vocational Education Enrollment Summary by Occupational Category and Educational Level, Fiscal Years 1964 and 1966

	Total	Secondary	Post-Secondary	Adult	Special Needs
Fiscal Year 1964					
Agriculture	860,605	501,819	92,907	265,879	
Distributive Occupations	334,126	55,132	2,688	276,306	
Health Occupations	59,006	5,478	41,698	11,830	
Home Economics	2,022,138	1,308,453	1,652	712,033	
Technical Occupations	221,241	20,755	71,824	128,662	
Trades & Industry	1,069,274*	249,119	53,633	766,513	
TOTAL	4,566,390	2,140,756	264,402	2,161,223	
Fiscal Year 1966					
Agriculture	907,354	510,279	5,987	390,388	700
Distributive Occupations	420,426	101,728	15,833	301,116	1,749
Health Occupations	83,677	9,793	36,496	37,065	323
Home Economics	1,897,670	1,280,254	2,652	602,363	12,401
Office Occupations	1,238,043	798,368	165,439	271,149	3,087
Technical Occupations	253,838	28,865	100,151	124,730	92
Trades & Industry	1,269,051	318,961	115,539	803,901	30,650
TOTAL	6,070,059	3,048,248	442,097	2,530,712	49,002

*Includes 1,614 enrolled in fishery occupations.

Source: U.S. Department of Health, Education, and Welfare.

the required 10 percent was achieved. Home economics enrollment is still approximately one-third of the total.

On the more encouraging side, technical education enrollments increased about 15 percent between 1964 and 1966. However, this rapidly growing area of opportunity accounted for only 4 percent of total enrollments in the latter year. One half were adults and 40 percent were post-secondary, indicating that most of the courses were at levels or durations beyond the reach of high schools. Health occupations increased 41 percent in two years but still totalled less than 84,000. Distributive occupations increased 25 percent with adults comprising nearly three-fourths of the total enrollment. Trades and industries increased 20 percent and comprised one-fifth of total 1966 enrollment. Only one-fourth of this category, which includes most of the skilled crafts, was made up of high school students.

Examination of enrollments by the VEA '63 service groups indicates one-quarter of high school students enrolled in vocational courses in 1966. Of these, 59 percent were in agriculture and home economics, and another 26 percent were being prepared for office occupations. The declining opportunities in agriculture are well known. Home economics, with minor exceptions, does not train for employment. Limited studies do suggest that a high percentage of those obtaining typing, shorthand and other office skills use them in employment. In general, however, the extent to which high school students are being prepared for employment after 2 years of VEA '63 is unimpressive.

Post-secondary enrollments are more in accord with labor market trends, even though involving only 7 percent of vocational students and 4 percent of the population age 18-21. Almost 9 out of 10 post-secondary students are trained in office occupations, trades and industries and technical programs--all in high demand. Adult enrollments comprise an impressive 42 percent of vocational enrollments, though less than 3 percent of the 25-64 year age group are involved. Trades and industries enroll nearly one-third of this predominantly part-time group with 40 percent in home economics and agriculture. One-fourth of the limited special needs group were in home economics, but another three-fifths were in trade and industry occupations.

The reporting system persists in using the traditional occupational categories. Therefore, information on the actual occupations for which students are trained is limited. Two years is a short time for judgment, but indications are that in the brief period there has been little progress toward the primary redirections endorsed by the 1963 Act. The proportion of high school students enrolled does not appear to be rising when the addition of office occupations to the federal support roster is considered. Adult enrollments are increasing slowly. Post-secondary enrollments are rising more rapidly, but they are part of the expanding junior college movement; the independent contribution of VEA '63 is speculative.

The addition of office occupations to those specifically eligible for federal support was laudatory in view of employment trends and the deficiency of vocational education opportunities for women. To the extent the rising number enrolled in federally-supported courses in that category is a net addition to those being trained for office work, a contribution is being made.

The shift to off-farm, agriculturally-related occupations is praiseworthy but too small. The problem is not that too many are being trained for farming occupations; it is that few of those trained will remain on the farm and, given limited resources, the funds could be better spent for other occupations. Home economics provides useful homemaking skills but makes only a limited contribution to employability. Its inclusion in vocational education is a misnomer. A few are prepared in home economics for employment in food service and clothing-related occupations but, apparently, most of these skills are reported among trades and industry occupations.

Considering the growing demands, the efforts to develop training in such critically labor-short areas as health and technical occupations and some of the skilled trades have been surprisingly limited. Even within these areas, health occupations appear largely restricted to practical nurses and dental assistants, ignoring the wide variety of medical technician opportunities. Technician programs appear over-concentrated in electronics and drafting. Little effort has been made to interrelate secondary and post-secondary training to provide

"career ladders" and reduce overlap in technical programs requiring extensive training.

Two out of five American youths attend college, and half of them graduate. This is a remarkable accomplishment. But it still leaves four out of five to obtain salable skills in high school, in post-secondary technical and junior colleges, in uncompleted college courses, in apprentice or on-the-job training, or, belatedly, through remedial programs. VEA '63 has yet to make an appreciable difference in the extent to which they do so.

Expenditures

The new Vocational Education Act did increase reported expenditures almost 3 times between 1964 and 1967, though some of the state and local increase may be more apparent than real.

Prior to 1963, the states and the local communities had continued to increase their share of support for vocational education while federal expenditures stagnated. Some feared that expanded federal government support would be offset by reduced state and local spending. Instead, while federal expenditures quadrupled, state and local expenditures more than doubled (Table 3). The local communities contributed the largest share to the increase, their expenditures rising 130 percent compared to a 70 percent rise in state expenditures. Though state and local spending did not increase apace with federal appropriations, their 1964 proportion was already double the required 50-50 matching.

Expenditure patterns indicate the relative priorities given the new purposes of the 1963 legislation. The portion of funds spent for trades and industries, distributive, health and technical occupations remained unchanged. The ratio for agriculture and home economics decreased by 15 percent and was offset by spending for office occupations. The fact that the $23 million of federal funds used for office occupations were matched in 1966 by $148 million from state and local funds, illustrates the difficulty of being sure it resulted in net increases, rather than reflecting previously unreported expenditures. The trend has been to increase spending in all categories, without significantly changing their relative importance to reflect the changing structure of employment.

TABLE 3

Expenditures for Vocational Education

(Thousands of dollars)

Fiscal Year	Total	Federal	State & Local
1964	332,785	55,027	277,758
1965	604,646	156,936	447,710
1966	799,895	233,794	566,101
1967	962,935*	248,085*	714,850*
1968	NA	255,377*	NA

*Estimated

Source: U.S. Department of Health, Education, and Welfare. Does not include work-study expenditures.

Smith-Hughes and George-Barden Act expenditures are not reported by groups served (secondary, post-secondary, adult and special needs). Therefore, the available data by group account for only three-fourths of the total vocational education expenditures. In the school year 1965-1966, one-third of these expenditures were for training high school students, one-sixth for post-secondary students, less than 5 percent for adults, and only 1 percent for youths with special needs. The actual training of persons in these four groups took 53 percent of the 1963 Act funds, while 37 percent were expended for construction and 10 percent for ancillary services and research.

Area Vocational Schools

The most notable impact of VEA '63 was the construction it sparked. A concept widely hailed by progressive vocational educators at the time of the Act's passage was the area school—a school offering training in a variety of occupations and serving students from a number of high schools or more than one school district. It was hoped that the area school would circumvent the problem of limited offerings in small schools and the high costs of equipping a vocational school. The 1963 Act specified spending at least one-third of the funds either for constructing such schools or for post-secondary vocational education. Construction was the overwhelming

choice—partly because of a backlog of need, but also because it was the easiest thing to do.

Forty-five states reported construction of new buildings, additions, remodeling or renovation during the fiscal years 1965 and 1966. Total expenditures for construction were more than $106 million in 1965 and about $165 million in 1966. During the 3-year period 1965-67, 689 construction projects were funded: 214 school construction projects in 1965, 229 in 1966 and 246 in 1967. By type of school in 1965 and 1966, 72 projects were identified as specialized vocational high schools, 181 as vocational departments of regular high schools (the so-called comprehensive high school), 113 as technical or vocational schools, and 77 as departments of post-secondary schools. The authorization in the Act for establishment of residential schools was rejected by the appropriations committees.

The rapid increase in construction is impressive, but the number and capacity of schools is only a beginning in relation to need. However, continuation of construction at that level would achieve adequacy within a few years. Unfortunately, there are indications that the hasty use of funds may have saddled some school districts with inefficient facilities.

While the facility-planning office in the Division of Vocational and Technical Education in the Office of Education has continuously expressed the need to design facilities for maximum flexibility and adaptability, the states too often have ignored this advice. The states were required to submit guidelines for development of area schools, but the facilities constructed appear to have emphasized continuation and expansion along conventional lines. There is little evidence that facilities were planned to house training for new occupations or critically short ones.

Research

The first results of research projects funded under the new VEA '63 provisions are just beginning to come in. Included have been studies of student characteristics, evaluation, administration, flexible scheduling, computer-assisted instruction, television instruction, teaching machines and course development.

Most of the research and development efforts have been relatively small and fragmented. That is, they have been limited to seeking improvement in a single subject area, or testing a single approach or process. They do have in common the fact that they are action-oriented and encompass efforts to more fully bridge the gap between vocational and general education. They also place emphasis on planning, are directed at the needs of students with the intent of keeping them in the school system longer, and provide experiences which will enhance their employment opportunities when they do leave. It is much too early to appraise the impact of this research.

Vocational education had been subjected to little research. Specification of 10 percent of program funds for research, training and demonstration purposes was a new concept, even for more research-conscious fields. The first year proved hectic. Finding within that brief time enough competent researchers and promising projects to absorb $12 million was a difficult task. In fiscal 1966 the 10 percent feature was maintained as research funds rose to $18 million; but partly because of dissatisfaction with the result and partly because of growing Congressional cynicism about research, the appropriations committees cut the funds back to $10 million or 5.1 percent in fiscal 1967, and $13.5 million or 6.8 percent in fiscal 1968. Having built up expectations for the higher level, the problem of those years was establishing priorities and scaling down commitments.

Between 1965 and 1967 approximately $39 million were expended in the research category—about 30 percent for research, 10 percent for training, and 40 percent for demonstration and pilot programs. The remaining 20 percent supported the work of the two research centers established at Ohio State University and North Carolina State University and for 44 Research Coordinating Units established in various states.

Probably the most significant accomplishment has been a recognition of need and identification of individuals capable of carrying out the research. The most frequent criticism of the research program is the lack of tangible impact on existing programs and on the development of new programs and

methods. This has involved the lack of dissemination of results and failure to interpret the results of completed research in operational terms.

The first stemmed from a peculiar interpretation by HEW legal counsel that, because the research section of the Act did not specifically mention dissemination, funds could not be used for that purpose. The second has been the source of a bitter struggle over allocation of the available funds. The Office of Education had chosen to centralize all of its research-funding activities into a Bureau of Research. The Bureau of Adult and Vocational Education and Library Services protested that, as a result, the research funds were spent on various esoteric projects to the exclusion of research into operational problems. In addition, the state boards of vocational education protested in politically potent places that they were denied their fair share of the research funds. Defenders of the current allocation argue that research should pursue long-run goals rather than immediate operational problems. They criticize the operating bureaus for failing to interpret current research in operational terms and incorporate its results into their programs. Who is right and who is wrong will be resolved through political pressure, probably with some division of research funds being made among the three claimants.

Work-Study Program

The 1963 Act included a work-study program which provides part-time work and income to make vocational study more readily available to poor youths. Federal funds were made available on a non-matching basis for the first two years with a 25 percent state input beginning in fiscal 1967. The Act authorized $30 million, $50 million and $35 million for fiscal 1965, 1966 and 1967, respectively. Congress chose instead to appropriate $5 million for 1965, $25 million in 1966 and $10 million in 1967. Actual expenditures were $2.8 million and $20.9 million in 1965 and 1966, respectively. With matching funds required, only $8 million was spent in fiscal 1967. Enrollments fluctuated with expenditures—19,000 in 1965, 70,100 in 1966 and 49,300 in 1967.

Critics of the work-study programs argued that Economic Opportunity Act programs such as the Neighborhood Youth Corps could provide sufficient jobs and income for those in vocational programs. They were successful in getting the program deleted from the fiscal 1968 budget proposals only to have it restored by the Congressional appropriations committees. Defenders convinced Congress that the EOA programs were remedial in nature and were based on family income criteria. Their sponsors were required to work through community action agencies. The work stations developed for the antipoverty programs were more useful for income than experience purposes. Their enrollment already far exceeded their resources leaving little additional room for vocational students.

Though it is unknown how many of those receiving work-study payments would have been unable to continue training without the program, there is no reason to doubt its significant contribution. Vocational students are not, by and large, among the more affluent. The most justifiable criticism is probably the failure to link work-study with the small but important cooperative work-experience programs which have a significant history in vocational education.

The purpose of work-study is income; that of cooperative work-experience programs is to couple training in the school and on-the-job. The latter provides some of the best employment preparation available in vocational education, but it is limited by lack of staff support and financial resources. A preliminary report of a nationwide study on work-experience programs found that there were a total of 4,800 cooperative work-education programs in the United States with an estimated enrollment of 190,000 persons.[4] The largest number of programs and the largest number of students enrolled were in distributive education. Had the 2,451 schools with cooperative education programs but no work-study programs, and the 1,923 schools with work-study but no cooperative programs merged their efforts, both programs would have profited.

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[4]William J. Schill, *Concurrent Work-Education Programs in the 50 States*, Initial Report, USOE Project 6-2851.

Relations with the Federal-State Employment Services

The 1963 Act required that each state, in its plans and projected activities filed as a prerequisite to receiving the federal matching funds, include provisions for cooperative arrangements with state employment service offices for occupational and labor market information, vocational guidance and placement services. Little progress was made during the first two years. Educators accused the employment services of failing to provide the required labor market information; the latter countered that the educators had yet to define their needs. The employment services also complained that they could not supply additional services within the constraints of their existing budgets; yet there was no provision for transferring vocational education funds.

Progress was even slower in vocational guidance and placement services. Employment service personnel had for a number of years visited one-half of the high schools in the country, now representing more than three-fifths of total enrollments, to test and counsel members of senior classes not planning to enter college. Beyond this continuing program, no significant efforts were made to establish a special relationship with vocational education. Vocational instructors customarily place their better students through informal industry contacts. The remainder seek their own jobs by a variety of methods, including registration at the public employment service. The employment services occasionally "outstation" personnel in junior and community colleges to provide placement services but rarely do so in high schools and vocational schools. Thus, no special guidance and placement assistance as contemplated by the Act were provided to vocational education students or graduates.

Excellent relations exist between local employment service personnel and local vocational educators in some areas, but relationships are nonexistent in others. The Act appears to have had little if any effect. This is in contrast to the notable impact of the Manpower Development and Training Act on this relationship. The essential difference is that, while the VEA '63 directive was a pious hope with no built-in leverage, MDT institutional funds could flow only following joint employment service-vocational education action.

Despite the slowness of improvement in local relationships, significant developments are currently underway at the federal level. In 1966, the Department of Labor took the initiative by funding a study which assessed the status of existing relationships, identified the services needed from the Employment Service and made recommendations to meet the needs.[5] The report identified many sound local relationships, but also found that some state vocational agencies had already begun to set up manpower survey units duplicating those of the Employment Service. Much of the needed information was already available from the Employment Service but was unknown because of the absence of communication.

The report led to the establishment, for the first time, of formal Vocational Education/Employment Service relations at the federal level. A U.S. Employment Service-U.S. Office of Education Liaison Committee is working toward a joint occupational taxonomy, exchange of information on occupational requirements, and administrative procedures for transfer of data. Study is underway to ascertain the need to broaden the Employment Service cooperative school program to cover vocational and technical schools. Employment Service representation on state vocational education advisory councils and vocational research coordinating units is being considered.

Supporting Services

The Vocational Education Act of 1963 required that at least three percent of each state's allotment be used for ancillary services to assure quality in all vocational education programs. Ancillary services were defined in a very broad sense and six specific examples were listed: teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, state administration and leadership, and "periodic evaluation of state and local vocational education programs

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[5]H. Ellsworth Steele, *Cooperation Between the Employment Service and Educators in Providing Realistic Vocational Education,* U.S. Department of Labor, Manpower Administration, September 1966 (mimeographed).

and services in light of information regarding current and projected manpower needs and job opportunities." Actually, the states spent almost ten percent rather than three percent in 1966 for those purposes—a total including federal, state and local funds of nearly $50 million.

The number of vocational teachers (full-time and part-time) increased from 109,000 in 1965 to 124,000 in 1966, a gain of 13.8 percent. In the latter year, 77,000 teachers were enrolled in teacher educational programs in vocational and technical education, half in pre-service and half in in-service courses. Although the growth is promising, a continued effort will be required, for it is estimated that a 150 percent increase will be needed during the next decade to meet projected enrollments.

Little progress has been made since the enactment of the 1963 Act toward offering vocational students the same counseling and guidance services that are provided—at least in some states—to college-bound students. While only one out of ten academic high schools has no counselor, only half of the vocational schools furnish guidance and counseling services with, in most cases, only one person to a school. Practically no guidance and counseling services are provided to out-of-school youths and adults and very little to youths with special needs. Only one-half of the states have guidance personnel at the staff level, again usually one person to each state. The guidance and counseling functions of the U.S. Office of Education are also greatly understaffed. No data are available to evaluate the impact of the 1963 Act on other supporting services.

The Impact in Summary

The changes wrought by the 1963 Act are a separate issue from the following assessment of the status of vocational education. The changes can only be concluded to be minor.

The Vocational Education Act of 1963 advocated two basic changes: First, vocational education was to serve the occupational needs of all people in the community through unified programs rather than to train them in separate programs for selected occupational categories. Second, a new group was to be served—the persons who could not succeed in regular

vocational education programs because of educational, socio-economic and other obstacles. Neither change has occurred to a substantial degree.

Expenditures have increased, but the expansion has been largely in the old occupational categories except for the addition of a new category of office occupations. Vocational education is not yet adequately responsive to the needs of the labor market, little recognition has been given to new occupations, few innovative programs are underway, and there is little coordination between general and vocational education. It is not even certain that enrollments have increased significantly more than they would have in the absence of the Act.

Progress has not been totally lacking. Construction has been accelerated, though not necessarily in the most innovative ways. Area schools have been established rapidly; home economics and agriculture show somewhat greater concern with gainful employment; research in vocational education has begun; a start has been made on establishing effective relationships with the Employment Service; work-study programs have been successful. A Federal Advisory Committee on Vocational Education has been established, though its effectiveness is yet to be demonstrated. There are now more vocational teachers, and vocational guidance has probably improved to some extent in quantity and quality.

Two or three years is a short time in a system as old as vocational education, and change may accelerate with time. Yet it is possible to identify two major reasons for the limited impact of the 1963 Act to date. The first is the permissiveness of the legislation. New objectives were prescribed and added resources were provided, but the Act made no necessary connection between the two. The new funds could be used to pursue old objectives as well as new ones. Congressional ambivalence was evident in the failure to replace existing vocational education acts by merely adding another with inconsistent objectives.

The second obstacle, allowed but not created by the permissiveness of the Act, was the lack of national leadership from the Office of Education. The agency has a long history of providing matching funds without prescribing objectives, establishing substantial guidelines or evaluating state and

local accomplishment. Its leadership is also more comfortable with higher and general education than with vocational education.

In the absence of federal leadership, resistance to change is considerable, particularly at the state level. Local vocational educators, in direct daily contact with students and aware of the needs of local employers, are more responsive to changing social and economic conditions. When VEA '63 directed changing emphasis from occupational categories to groups of people, the federal vocational education agency was restructured accordingly. However, most states continued organization around the traditional categories. Local educators complain that innovative programs are often rejected at the state level because they do not fit administratively within existing categories. For instance, proposed special needs courses were rejected in one state because there was no such division in the state office.

Administrative structure is not the only source of resistance to change. Another state arbitrarily reported ten percent of its secondary students as being in the special needs category without creating any special courses. A technical school in another state reacted that it had spent years building an image with employers and was not going to risk that image by enrolling less than the best. In another case, the State Director of Vocational Education arbitrarily announced that he would allocate no funds to post-secondary training.

The Office of Education is not without leverage to bring about change. Since the Commissioner of Education has the authority to approve the state plans and projected activities which are prerequisite to receiving federal funds, he also has the authority, by implication, to disapprove them. The state plan is a misnomer. It is, in actuality, merely a legal agreement by the states to comply with federal laws in the use of the federal funds. The projected activities, however, are, or could be required to be, detailed declarations of state intent.

No state plan with its accompanying projected activities has been disapproved, and there is little evidence that they are seriously studied by the Office of Education. Staff limitations may have something to do with the absence of monitoring and evaluation. Lack of federal interest in exerting aggressive leadership is more important. State and local educators

are resistant to federal controls. However, requiring the states to plan their own innovative programs for use of federal matching funds is a mild form of intervention compared to those accepted by the same vocational educators under MDTA. The painful experience of recent commissioners of education who have tried to withhold federal funds to enforce integration decisions illustrates the political vulnerability of the Office of Education on the more emotional issues. On the other hand, just because of comparison with these more emotional issues, a requirement for meaningful state planning might seem less odious.

THE STATUS OF VOCATIONAL EDUCATION

The fact that the Vocational Education Act of 1963 has yet to bring about substantial changes says nothing pro or con about the quality and accomplishments of vocational education. It only indicates that the objectives of VEA '63 are yet to be fully endorsed or supported by vocational educators. Assessment of the extent to which VEA '63 has wrought changes is relatively simple; evaluation of the status and achievements of vocational education is not. Indications can be provided by summarizing the results of fragmentary studies which provide some insight into the characteristics of enrollees, the relevance of curricula and the results of vocational education. Some indications of future directions may be found in an examination of innovative developments, though present trends do not support sanguine estimates of the speed of their adoption.

Who Needs and Who Gets Vocational Education

One of the profound developments of modern times was the shift from property ownership to individual skill as the primary source of income and wealth. The transition is inherent in industrialization and specialization of labor and has been underway for at least two centuries. However, its educational implications have become apparent only in the last twenty years. Traditionally, American education was more concerned with citizenship than employment. Only a few professions required higher education and high school was preparation for the university.

Criticisms of the college preparatory emphasis of the contemporary high school should be tempered by recognition that in the last century four out of five high school graduates did go to college. But few went to high school. The objective has failed to change as increasing affluence has allowed mass education. Three out of four youths now graduate from high school. In fact, the average member of the labor force has some post-secondary education or training. Technology has been structured to use a relatively well educated and trained labor force, and those without are competitively disadvantaged. With talents and skills as the primary source of income, investment in them is certain to continue its increase.

Trends in Educational Attainment

College graduates are still few enough that the one out of six who *do* graduate are almost guaranteed successful employment. As previously stressed, only one-fourth of high school youths enroll in federally supported vocational courses along with four percent of the 18-21 year old population and less than three percent of adults. A 1964 Labor Department survey found that only three of ten of the less than college trained labor force had any formal training for their current jobs.[6]

There are a variety of ways to prepare for employment including formal and informal on-the-job training. However, it is clear that the importance of formal, in-school preparation is increasing if only for competitive reasons. Table 4 illustrates the generally rising educational attainment of workers by occupation. In some cases the rise is attributable to the requirements of the job content. In others it is only the fact that educated people are available, and employers rarely need to rely on others. How many of the 75 percent of youths who currently neither attain a college education nor receive any meaningful vocational education (not including agriculture and home economics) need formal training can only be guessed. One can be certain that the proportion is large and increasing.

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[6]U.S. Department of Labor, *Formal Occupational Training for Adult Workers*, Manpower and Automation Research Monograph No. 2, December 1964.

TABLE 4

The Changing Educational Pattern of Major Occupational Groups, 1952 and 1965

	Percentage Distribution of Educational Attainment									
	Less than 8 years		8 to 11 years		12 years		13 to 15 years		16 years or more	
Major Occupational Group	1952	1965	1952	1965	1952	1965	1952	1965	1952	1965
All White-collar	4.9	2.8	22.7	16.0	37.5	40.1	15.7	16.7	19.2	24.4
Professional and Technical	.6	.8	6.5	4.3	16.1	18.9	21.4	17.1	55.4	58.9
Managerial and Kindred	9.8	6.0	32.4	23.4	33.6	36.9	13.2	16.0	11.1	17.7
Clerical and Sales	4.1	2.3	24.8	19.4	49.7	54.7	14.5	16.9	6.9	6.7
All Blue-collar	24.8	16.8	48.1	43.5	22.2	33.3	3.8	5.2	1.0	1.2
Craftsmen	17.7	12.0	47.9	40.6	27.2	37.9	5.7	7.5	1.4	2.0
Operatives	25.3	17.1	50.1	45.7	20.9	32.5	3.1	3.8	.7	.8
Laborers	42.6	28.4	40.9	42.4	13.8	23.9	1.7	4.3	1.0	1.0
Farm	42.5	30.8	38.0	40.7	14.4	22.3	3.6	4.5	1.5	1.6
Service	30.7	17.6	43.4	42.9	19.7	31.8	4.4	6.3	1.8	1.4

Source: Johnston, Denis and Hamel, Harvey, "Educational Attainment of Workers in March 1965," *Monthly Labor Review*, Washington, D.C., March 1966.

Socio-economic Background

The official vocational education data provide no information on the socio-economic background, ability and role of enrollees. However, some indications are available in unpublished data from Project TALENT, which analyzed the backgrounds and followed up the experience of a sample of one-half million 1960 high school students, and from other sources.[7] As Table 5 shows, 80 percent of the vocational graduates were drawn from families of below average socio-economic environments, consisting of low incomes and low occupational and educational status.

The same data showed 80 percent of vocational students to be of below average ability with 50 percent drawn from the lowest ability quartile (Tables 6 and 7). Tests included verbal knowledge, visual reasoning, mathematics, games, general knowledge, etc. Unfortunately, data are not available by training occupation and for post-secondary students and adults.

Other unpublished Office of Education data show 22 percent of Negro students participating in vocational courses compared to 17 percent of white students (Table 7). American Indians and Orientals also reported a high proportion of vocational training—36 percent and 25 percent, respectively. The same data indicate a higher proportion of vocational enrollment for Negroes outside of the South than elsewhere and in urban than rural areas. Patterns for white students are similar except that more rural than urban white southerners appear to receive vocational education—a phenomenon probably accounted for by agriculture and home economics enrollments.

The meaning of these data would be more apparent if occupational breakdowns and information on quality of training were available. The higher proportions of white students and those with greater ability and more favorable socio-economic

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[7]The material in this section along with the data in Tables 5-9 is from: Howard Vincent and Joseph Froomkin, *Preliminary Analysis of the Characteristics of Vocational Students and Programs*, U.S. Office of Education, Office of Program Planning and Evaluation, Washington, D.C., 1967 (mimeographed).

TABLE 5

Comparison of High School Graduates by Program and Socio-Economic Background (Males only)

High School Program	Socio-Economic Quartile				
	Total	Low	II	III	High
	(percent)				
General	100	39.4	31.7	22.6	10.8
College Prep	100	15.1	23.2	27.7	33.8
Commercial	100	43.4	27.6	16.6	12.4
Vocational	100	45.6	34.4	15.2	4.7
Agriculture*	100	43.7	29.1	13.4	13.8

*The Project TALENT data separated agriculture from other vocational training.

Source: Special tabulations from unpublished Project TALENT data made for the Office of Program Planning and Evaluation, U. S. Office of Education.

TABLE 6

Comparison of High School Graduates by Program and Ability (Males Only)

High School Program	Ability Quartile				
	Total	Low	II	III	High
	(percent)				
General	100	30.3	33.7	27.0	8.9
College Prep	100	8.3	16.0	30.0	45.3
Commercial	100	36.4	36.8	23.0	3.8
Vocational	100	50.4	29.5	17.3	3.0
Agriculture	100	54.9	26.1	15.6	4.0

Source: See Table 5.

TABLE 7

Percent of Twelfth Grade Students with Vocational Training by Region, SMSA Status and Race

	United States	Southeast		Non-Southeast	
Race	Total	SMSA	Non-SMSA	SMSA	Non-SMSA
Negro	22	23	17	28	18
White	17	9	13	18	19

Source: Cutright, Phillips. *Vocational Students, Teachers, and Schools in the United States.* Unpublished report on data from the Educational Opportunity Survey, 1965, U.S. Office of Education, Washington, D.C.

status enrolling in college preparatory courses is understandable. It is not clear why students with those characteristics would prefer the general to the vocational curriculum. Under current definitions much if not most of the commercial curriculum could be supported by vocational funds. The quality of vocational offerings, the "image" of the vocational curriculum or the "dumping ground" proclivities of academic educators may be involved in varying degrees.

To the extent that the socio-economically handicapped have more to gain from vocational education, the mix may not be unfavorable. However, observation which suggests that the quality of vocational education, like all education, is worst in the central city slums where it is needed most interferes with such sanguine conclusions. On the other hand, if the quality of vocational education is adequate, far too many of the socio-economically and academically disadvantaged are enrolled in general curricula which prepare them for nothing.

The Adequacy of Vocational Education

There is simply no general qualitative information on vocational education. The observer is confused by a range from the excellent to the abysmal. A study in nine cities by Jacob J. Kaufman and his associates at Pennsylvania State University consistently gave adequate or better ratings to

instruction, physical facilities and equipment.[8] Weaknesses were most often limited occupational offerings, inadequate use of advisory committees and poor guidance, placement and follow-up.

Somewhat wider but less intensive observation suggests poorest quality and overcrowding in urban slums, high quality but limited availability in wealthy suburbs, and limitation to agriculture, home economics and some office occupations in rural areas. Quality appears better but enrollments are still low in small to medium sized cities. The quality of instruction is probably the most favorable point in general, with the competence of vocational instructors at least as good on the average as that of other teachers. Kaufman and his associates were disturbed to find counselors less available to vocational students than others, better informed about and overly-oriented toward college preparatory work, and tending to direct minority group members toward traditional minority occupations.[9] This too, seems to be a general condition.

The Results of Vocational Education

Ultimately, vocational education, like any other public program must be evaluated by its results. The official reporting system provides no after-training information except a one time survey of the number of graduates placed in their first job. Recently, the allocation of substantial sums to vocational education research has produced a number of comparative and cost-benefit studies of the results of vocational education.

Retention Rates and Relevance

Considering the low socio-economic status and ability of vocational students, a high dropout rate is not surprising.[10]

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[8]Jacob J. Kaufman, *et al., The Role of the Secondary Schools in the Preparation of Youth for Employment,* Institute for Research on Human Resources, The Pennsylvania State University, February 1967.

[9]*Ibid.*, pp. 12-5, 12-6, 12-10.

[10]Daniel Schrieber, *Holding Power of Large City School Systems,* National Education Association, Washington, D.C., 1964.

What is surprising is that vocational education dropout rates appear to be higher than those of other programs when controlled for ability and socio-economic status (Tables 8 and 9).

The proportion of vocational students who seek and find jobs is not meaningful without comparison to some control group. Considering the high proportion of youths who delay entry to the labor force for further schooling or military service and the usual floundering on the brink of the labor market, the fact that a low proportion make use of the skills obtained in high school vocational courses is not surprising. However, the proportion of those seeking jobs immediately after graduation who obtain training-related employment is an important indicator of training relevancy and effectiveness. Data from the nine-city Kaufman study are particularly informative (Table 10). It suggests that the more generalized the training (and, perhaps the more the occupation appeals to females), the more likely the graduate is to find a training-related job, while specialized training (or the greater mobility of males) reduces the probability of training-relatedness.

A three-city study by Kaufman and Lewis shows similar results.[11] Three of four office occupations graduates found employment in the occupations for which they were trained compared to two out of five in trade and industrial and technical training. Considering that 24 percent of the vocational students in the sample had obtained their jobs through the school's placement efforts, the number of trade and industrial and technical students finding training-related jobs through their own efforts must have been very small.

Employment and Earnings

The relative employment and earnings experience of vocational students compared to graduates of academic and general curricula shows more favorable results. A comparison of the experiences of the noncollege graduates of

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[11]Jacob J. Kaufman and Morgan V. Lewis, *The Issues, Evaluation and Potential of Vocational Education in Pennsylvania*, Institute for Research on Human Resources, The Pennsylvania State University, October 1967, pp. 110-111.

TABLE 8

Dropout Rates of High School Students by Program and Ability Quartile (Per 100 Students)

High School Program	Ability Quartile				
	Total	Low	II	III	High
General	16.2	25.6	16.7	9.1	5.7
College Prep	3.9	22.5	6.8	1.9	1.4
Commercial	12.5	18.3	10.9	9.3	5.7
Vocational	22.4	29.8	18.7	8.7	*
Agriculture	27.3	39.3	9.9	*	*

Source: See Table 5.

Dropout rates are based on information collected on 10th grades in 1960 and follow-up analysis in 1963; both males and females are included.

*The size of the population within this cell did not warrant the calculation of dropout rates.

TABLE 9

Comparison of Dropout Rates of Vocational and General High School Students by Ability and Socio-Economic Backgrounds (Per 100 Students)

High School Program and Socio-economic Quartile	Ability Quartile	
	I and II	III and IV
Vocational Students		
I and II Socio-economic Quartiles	24.7	13.2
III and IV Socio-economic Quartiles	28.8	8.2
General Students		
I and II Socio-economic Quartiles	22.8	9.9
III and IV Socio-economic Quartiles	17.5	4.4

Source: See Table 5.

TABLE 10

Training-Relatedness of First Jobs Obtained by Graduates From Eleven Selected Vocational Programs

Vocational Programs	Percent Who Obtained Related Employment	Number
Commercial	81	463
Beauty Culture	81	74
Dressmaking	61	41
Distributive	51	69
Printing	45	66
Mechanical Drawing	40	50
Automotive Mechanics	33	141
Electronics	31	111
Nursing	31	26
Machine Shop	26	124
Electricity	12	64

Source: Kaufman, Jacob J., *The Role of the Secondary Schools in the Preparation of Youth for Employment.* Pennsylvania State University, February 1967, pp. 6-20.

50 comprehensive and 50 vocational and technical high schools after intervals of two, six, and eleven years found the latter with higher hourly earnings after two and six years.[12] However, the earnings progression of the comprehensive high school graduates exceeded those of the vocational graduates by the sixth year and the hourly earnings had caught up by the eleventh year. Throughout the eleven years, the vocational graduates remained more steadily employed making it possible for their annual earnings to remain higher.

The Kaufman nine-city study found no significant differences in hourly earnings on first jobs for vocational, general and academic students. However, the three-city study which followed graduates over a six-year period found vocational-technical graduates to have been employed seven percent more of the time and to have earned an average of $500

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[12]Max Eninger, *The Process and Product of Technical and Industrial High School Level Vocational Education in the U.S.*, American Institute for Research, Pittsburgh, 1965.

per year more than academic graduates.[13] However, by the sixth year the magnitude of the differences were growing smaller, suggesting that in the long run the generally higher capability would prevail over the initial training advantage. Interestingly, an initial large employment and earnings advantage of white over nonwhite graduates had reversed by the sixth year, giving some support to the stereotype that vocational education was a "creaming" program for the nonwhites and a "dumping ground" for whites.[14]

Neither the Eninger nor the Kaufman study controlled for ability and socio-economic differences. Project TALENT data indicated little difference among the earnings of vocational, general and academic graduates as a whole. However, vocational students had a significant advantage when adjusted for differences in ability (Table 11).

TABLE 11

Comparative Weekly Earnings Per 100 Persons—
Five Years After High School Graduation
(Males Only)

High School Program	Weekly Earnings	
	Unadjusted for Ability	Adjusted for Ability
General	$113.25	$111.65
College Prep	113.18	106.47
Commercial	107.85	105.74
Vocational	113.59	113.59

Source: See Table 5.

Benefits and Costs

Benefits cannot be realistically appraised without costs. Given more expensive equipment and lower student-teacher

[13]Jacob J. Kaufman, *et al., An Analysis of the Comparative Costs and Benefits of Vocational vs. Academic Education in Secondary Schools,* Institute for Research on Human Resources, The Pennsylvania State University, October 1967, pp. 129-130.

[14]*Ibid.*, pp. 135-136.

ratios, per pupil costs of vocational education have been estimated by various studies to exceed those of academic programs from $200 to $600 per year.[15] However, these costs vary widely from the minimal per pupil costs of home economics to the high costs of some trade and industry and technical courses. Corazzini concluded that continuance for four years of the initial wage differential in favor of Worcester, Massachusetts vocational high school graduates would justify the $500 per year cost differential.[16] However, with foregone earnings added, post-secondary vocational training in Worcester was concluded to be an unfavorable investment. A North Carolina study of post-secondary education turned out more favorable on the basis of a four-year differential maintained over high school graduates with similar grades.[17]

Taussig, also on the basis of an initial wage rate differential between vocational and academic graduates, concluded that the added costs of separate vocational high schools were not justified.[18] Controlling for various demographic and social characteristics and applying different methodology to data from another city, the Kaufman study found the returns to vocational technical education to justify reallocation of educational expenditures in that direction.[19]

Given differences and limitations in data and methods,

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[15]Michael K. Taussig, *An Economic Analysis of Vocational Education in the New York City High Schools*, paper prepared for the Conference on Vocational Education, The Brookings Institution, April 17-18, 1967; A. J. Corazzini, *Vocational Education: A Study of Benefits and Costs (a case study of Worcester, Massachusetts)*, Project No. 295, Bureau of Research, Office of Education, Department of Health, Education, and Welfare, August 1966; American Institute for Research, *An Analysis of Cost and Performance Factors for the Operation and Administration of Vocational Programs for Secondary Schools*, The Institute, Pittsburgh, May 1967 (mimeographed).

[16]Corazzini, *op. cit.*, p. 61.

[17]Adger B. Carroll and Loren A. Ihnen, *Costs and Returns of Technical Education: A Pilot Study*, U.S. Department of Labor, Office of Manpower Policy, Evaluation and Research, July 1966.

[18]Taussig, *op. cit.*, pp. 37, 42, 50, 57-58.

[19]Kaufman, *et al.*, *An Analysis of the Comparative Costs and Benefits of Vocational vs. Academic Education in Secondary Schools*, p. 148.

cost-benefit comparisons merit only restrained endorsement. The consistency of the overall conclusions adds confidence, however. In summary, the type of high school training in general appears to make little difference in employment and earnings. Vocational graduates tend to have an initial advantage which is overcome and surpassed in time by the more broadly trained academic student. However, when the lower average ability and relatively unfavorable socio-economic backgrounds of the vocational graduates are considered, they do appear to retain a net advantage from their training. This does not mean that present vocational education methods are the best derivable, however. It justifies only the conclusion that, for those not continuing beyond high school, preparation for employment is better than no preparation for employment.

INNOVATIONS IN VOCATIONAL EDUCATION

Consideration is merited of those projects at the cutting edge of vocational education development.[20] Their location, nature and sponsorship vary widely, but they tend to have a number of characteristics in common: (1) they are most often financed by foundation or general education rather than vocational education funds; (2) they tend to opt for an earlier introduction to occupational concepts but to delay provision of specific occupational skills; (3) they endorse a blending of basic, general and vocational education, flexibly shaped to individual interest and need; (4) they seek to broaden the range of occupations for which an individual is prepared; and (5) they assume change and the need for adaptability and continuous refurbishing of skills.

Each of these characteristics reflects a major contemporary issue in vocational education. Enrollments in post-secondary education are rising rapidly. High school students have limited experience upon which to base vocational choices. School hours are limited, and valuable general preparation for life is often sacrificed in order to gain specific preparation for a job. As pointed out, vocational education is expensive and losses are considerable when it is not used. The skills

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[20] In addition to the Report of the Advisory Council on Vocational Education, this section draws heavily upon *Curriculum Programs in Action,* report of a conference sponsored by San Francisco State College and University of Wisconsin, San Francisco, California, February 1967.

which can be provided in high school courses are limited, and many of the more rapidly growing technical occupations are almost precluded. For all of these reasons there are sound arguments for delaying preparation for specific occupations until after high school.

On the other hand, about three out of five youths still receive no formal post-secondary training, and one out of four fail to complete high school. There is anxiety to assure a salable skill to the school leaver. Despite the high dropout rate for vocational students who, as previously shown, tend to be drawn from dropout prone populations, there exists an assumption that occupationally-oriented education could, at its best, possess sufficient relevance to raise the school retention rate significantly. Experimental programs have attempted simultaneous solutions to this variety of inter-related problems. They seek to acquaint students with the nature of the world of work in elementary and junior high schools, motivate them to absorb general education by molding it around a core of occupational skills with training for broad job families or clusters rather than specific occupations. Experimentation in skill upgrading and remedial education and training has been sponsored largely by federal manpower and antipoverty programs rather than vocational education, though vocational educators have been deeply involved. A few examples of experimental and innovative projects will illustrate the trends.

Understanding the World of Work

The "Technology for Children" project, co-sponsored by the New Jersey State Department of Education and the Ford Foundation, the Nova schools in Florida and the "American Industries" project at Stout State University in Wisconsin are examples of programs which expose children early to the vocational choices they will eventually have to make. The New Jersey program consists of a systematic kindergarten through grade 12 exposure to the workings of the economy and the nature of the occupations within it. As a bonus, in addition to increasing the realism of vocational choice, it is hoped that the students will gain a general understanding of economic realities and will find all learning more relevant.

In grades 1-6, the Nova children are introduced to a wide range of employment-related experiences through tools, mechanical devices and games. In grades 7-12, the program becomes more directive. In grades 7 and 8, the students are exposed to fundamental concepts of technology, and a variety of introductory experiences are provided to help the student become more aware of vocational alternatives and career requirements. Specialization increases in grades 9-12, but encouragement is constantly offered to remain in school as long as the student can profit from further education. All experiences and decisions are structured so as not to pose obstacles to continuation. The objective is to develop confidence, knowledge and skills within a family of occupations, enhancing the immediate employability of the student, yet holding the door open to continued education and training. Learning experiences are individualized. The teaching of concepts and reliance upon problem solving as a teaching technique are emphasized. Progress is measured by achievement of competency rather than time in any particular phase of the program.

The American Industries project begins at the eighth grade rather than in elementary school. However, its objectives are similar. From a general understanding of the major concepts of industry and technology and simple problem-solving techniques, the student is to progress to the ability to recognize and solve complex industrial problems within broad concept areas or clusters of concepts appropriate to the individual's interest and abilities.

Melding Academic and Vocational Education

The Nova schools and the American Industries project are also examples of efforts to offer a broad academic education but to give it relevance, increase motivation and provide salable skills by structuring the academic offering around a core of manual or technical occupational skills. A number of other programs share similar objectives.

The Nova pre-employment program requires every student to elect one technical science course each year. In addition he enrolls in science, social studies, English, mathematics and foreign language courses, each with units and activities

directly related to the student's interest field. Vocationally certified teachers are teamed with other certified personnel for curriculum development and related material presentation. By teaching the concepts and processes of the work world and by using problem-solving techniques, the student is prepared for current employment yet enabled to cope with change. Despite preparation for immediate employment in a broad occupational area, students are prepared and encouraged to continue their education at college.

The American Industries project is also interdisciplinary, combining academic and vocational education. Its basic philosophy is that American industry provides a body of knowledge which can be analyzed in terms of identifiable concepts and that a structure can be developed to provide order to the body of knowledge. As the structure is formulated, it is prepared for instructional purposes and tested in cooperating schools. The courses draw heavily from the disciplines of psychology and sociology and also rely, to a great extent, upon the natural curiosity and motivation of students.

The San Mateo Unified School District, San Mateo, California, has developed a "zero-reject" concept for curriculum planning. The assumption is that with proper teaching techniques, every student can earn a high school diploma with significant standards and a broad liberal and vocational education. The schools accept the responsibility for seeing that students are employable whenever they choose to leave school, whether as a dropout from grade 10, or with a doctorate. Occupations are grouped by clusters and by levels which form ladders of progression throughout the educational experience. Academic disciplines, it is argued, should be established for the convenience of teaching and understanding rather than the standard "watertight compartments" adopted largely for convenience in administration. The intent is to state performance objectives clearly and mix discipline components to fit the student's own individualized learning strategy.

The "Partnership Vocational Education Project" at Central Michigan University, Mount Pleasant, Michigan, is a joint effort between the university and the secondary schools, community colleges and industry of the area. The project employs a teaching team from math, science, English and

industrial education. The program begins at the ninth or tenth grade of the secondary school and continues through the university serving all individuals with industrial-technical aptitudes and interests. It is structured on three levels: (1) a college-bound upper ability group; (2) an intermediate level group who may choose to enter the labor force after high school or who may advance to the community college or university; and (3) a lower ability group of students who are likely to enter the labor force after or even before graduation from high school. However, no student is permanently locked into any one of the three levels, and each may shift to another level according to his interests and aptitudes. The program at each level uses the vocational interest of the student as the motivating force for a sound educational program, but the vocational interest does not result in a vocational dead end. Occupational and personal guidance is emphasized to familiarize youngsters with the industrial-technical occupations and higher educational opportunities open to them including the building of realistic aspirational levels. It is argued that the motivation, particularly of individuals from lower socio-economic levels, is directly related to the immediacy of the reward and the relationship of the task to its achievement. Therefore, formal education is related as directly as possible to the personal goals of the individual. A problem-solving approach attempts to give meaning to formal education. The students develop capability in the identification of meaningful tasks, in the selection of appropriate knowledge and skill, and in applying them to the solution of problems.

The "Pre-engineering Technology Program," also known as the "Richmond Plan" or "Pre-Tech Program," now used widely throughout the San Francisco Bay area, was initiated by the Richmond, California High School District and Cogswell Polytechnical College. Its target population is the average, capable but under-motivated student who is achieving below his ability. The program is especially structured for an area in which the majority of students attain some education beyond high school. The immediate occupational goal is that of engineering technician. However, care is taken in curriculum planning and through cooperative relationships with the junior college system to assure that the graduates are qualified for the latter if their motivation is revived. Though broadly

rather than narrowly prepared, the students are in high demand from employers in the area. Curriculum units are planned by a teaching team around a core technical project provided by the industrial arts instructor. Each instructor from math, science and English then structures his offering around that project stressing their inter-relatedness.

The project has proven the effectiveness of the inter-disciplinary, employment-oriented approach in achieving a variety of occupational goals. Approximately 40 schools in the San Francisco Bay area have adopted the approach applying it to 12 different occupational goals. One of the more interesting and successful has been "Project-FEAST" (Food, Education and Service Technology) preparing for commercial food services. Though enrolling students of all ability levels, it has been particularly effective and appropriate for those of less than average ability. The disciplines drawn upon are home economics, science, English and mathematics. Close ties with the Hotel and Restaurant Foundation at San Francisco City College have assured both employment and further educational opportunities to the students involved.

Other innovative programs could be cited. Their conceptions of the inter-relatedness of career development and personal and social development, of academic and vocational education, of all levels of the educational process and the need for adaptability throughout a working life are hopeful signs. Their isolation from the bulk of vocational education activities are not.

Of federal vocational education sponsored innovation, Project ABLE in Quincy, Massachusetts is one of the few which approaches, but does not achieve, the full range of innovation evident in the aforementioned projects.[21] Even then, the Quincy project was originally supported from research rather than operating funds and was designed with the help of the American Institute for Research. The Quincy program involves the tenth grade and above including a two-year post-secondary curriculum. The program is built around 11 families of occupations encompassing 255 specific occupational

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[21] "Quincy Builds," *American Education,* July-August 1967, pp. 12-13+.

skills. An interdisciplinary staff including a mathematics teacher, a teacher from one of the sciences, a social studies teacher, an English teacher and a vocational specialist is assigned to each curriculum family. General education subjects are integrated with skill training but, contrary to the previously cited programs, the latter is the primary objective.

A two-year post-secondary school is open to those who graduate from high school. The whole complex is housed in a modern building with all the latest features of portable partitions, audio-visual equipment and individual study carrels.

The innovative programs do not operate in a complete vacuum, and some of the ideas are creeping into the regular programs. The Great Cities Research Council, which represents the major metropolitan areas in the United States, has made vocational education a major concern. In their "Plans of Action," a number of these cities have recognized the need for earlier introduction of vocational information and exploration, and have signified their intent to begin providing such information in elementary school programs. For example, the Chicago, Illinois Plan states that: "Education designed to prepare all students for the world of work shall begin in the kindergarten and shall continue through the common school program, and shall be abundantly available thereafter for training, retraining, and upgrading out-of-school youth and adults."[22] A number of the cities planned to analyze the junior high school programs to determine whether they were providing adequate exploratory experiences to help students understand the world of work in order that they might make more realistic decisions about their vocational choice and preparation.

In an attempt to overcome the chasm between general and vocational education, a number of school systems are moving in the direction of making vocational preparation a part of the curriculum of all students. The City of Pittsburgh, Pennsylvania has made considerable progress toward this end.

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[22]Donald M. Brill, *City Plan of Action Report,* Great Cities Research Council, Chicago, Ill., October 28, 1966 (mimeographed), p. 1.

They currently have approximately sixty percent of their students enrolled in courses which offer salable skills. The Compton, California School District has a similar goal and has made significant progress in that direction. These are exceptions, however. Vocational educators appear to be, for the most part, competent people pursuing their jobs as they see them. By and large, the objectives of the more progressive appear to be to do a better job of what they are already doing. The system is not well designed to make the need for change and adaptation apparent and attractive. Discontent and, therefore, experimentation and innovation seem to come primarily from outside the system. The need to structure the availability of public funds so as to motivate adoption of available "best practice" adapted to the needs of particular communities, population groups and individuals is apparent.

REORIENTING VOCATIONAL EDUCATION

The unguided consensus seemingly emerging from *ad hoc* experimentation and the limited involvement of the established vocational education structure, suggests a need for development, understanding and agreement on a basic philosophy for occupational preparation. Whether called relevant education,[23] the organic curriculum,[24] career development education[25] or education for employment,[26] and despite differences in detail and application, it is clear that certain basic principles underlie much of the more progressive thinking in the field. The diverse terminology merely seeks to differentiate the newer ideas from what vocational education has come to mean in tradition and practice. Involved is recognition that any dichotomy between academic and vocational education is out-

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[23] Marvin J. Feldman, *Making Education Relevant* (New York: Ford Foundation, 1966).

[24] David S. Bushnell, "An Education System for the 70's," speech presented before the Aerospace Education Foundation Conference (Washington, D.C.: U.S. Office of Education, Division of Comprehensive and Vocational Education Research) September 12, 1967 (mimeographed).

[25] Arthur R. Lehne, *The Career Development Concept of Education,* Chicago Public Schools, February 21, 1967 (mimeographed).

[26] "Vocational Education: The Bridge Between Man and His Work, Highlights and Recommendations from the General Report of the Advisory Council on Vocational Education," in *Notes and Working Papers Concerning the Administration of Programs Authorized Under the Vocational Education Act of 1963, Public Law 88-210, As Amended,* Prepared for U.S. Senate, Committee on Labor and Public Welfare, Subcommittee on Education, 90th Cong., 2nd Sess., March 1967.

moded, that all education to be acceptable must be relevant, that adaptability to change is as important as initial preparation and that the needs and objectives of individuals should take precedence over those of the labor market. It appears to be toward these same principles that the Vocational Education Act of 1963 was groping and which it approached more closely in intent than in achievement.

Only a generation ago, education for most of the labor force was irrelevant to employment. With the exceptions of a few professionals and a few skills, the schools had objectives other than preparation for work. Many of the older half of the current labor force are products of that system. In a complex interaction, rising educational attainment has swollen the supply of talented labor encouraging development of a technology structured to use such labor, thus increasing the competition and decreasing the opportunities for the undereducated. In this environment the traditional educational skills of spoken and written communication, computation, analytical techniques, knowledge of society and man's role in it and skill in human relations are all determinants of employability. At the same time, if education is preparation for life, employability skills are essential to it. Practically every member of the population at some time participates in the labor force. Yet vocational choice, like marital choice, is a crucial decision made casually and with inadequate information.

Experience with innovative programs provides increasing evidence that vocational education has more to offer as teaching method than as training substance. Emerging from its initial role as preparation for professions, education has fostered and rewarded the verbal skills important to those pursuits, in preference to manipulative skills and problem-solving attitudes. Lecture and discussion have been emphasized in preference to learning by doing. Federal law which mandated a separate administrative structure for vocational education and defined it as less than college level did not create the separation between academic and vocational education but it has certainly perpetuated it. It is paradoxical that the very phases of education which are the most specifically vocational in nature, higher and graduate education, are held in esteem while occupational preparation at a less than college level is without prestige.

Increasingly, both academic and vocational education lose relevance separately. The fusion of general and vocational education does not automatically create instructional content which is more palatable to the student. It is when the student perceives the information as meaningful in helping him to achieve sought after goals that instructional content becomes attractive. Molding an academic package around a core of practical skills capped with work experience provided by cooperative employers seems to offer the ultimate in relevance, particularly for those from deprived backgrounds with limited verbal skills and short time horizons.

Relevance starts with realistic objectives. Vocational goals of students, to the extent they have any, are a product of parental pressure or of supposed glamour which lead to high rates of attrition and feelings of failure. A considerable emphasis is being given to programs directed at helping students to establish realistic goals. This essential pragmatism is the motivation for earlier introduction and orientation to the world of work, improved counseling and guidance techniques, and exploratory programs. That same sense of relevance is easily recognized, but equally important, in the growing need to upgrade skills in an atmosphere of change and in the increasing emphasis on remedial help for the underprepared and victims of displacement. Once again, federal law must accept some blame for irrelevance. Though it is common to accuse vocational educators of resisting change by training for obsolete skills, it should be remembered that it was federal legislation, relevant in its day but unchanged over time, that locked the system into the occupational structure of 1917. Those with a vested interest in that structure could not be expected to strongly advocate change. That impetus had to and must come from without.

Finally, freedom can be operationally measured only in terms of the options available to the individual. Ignorance, poverty, disease and discrimination are major constraints on that range of choice; and education and training are crucial to their elimination. The responsiveness of the school system to the needs of all labor market entrants and participants--the dropout, the high school graduate, the post-secondary student, the upgrader and those in need of remedial help—expands or contracts the options and opportunities for self-realization.

It was from these philosophical concepts that the Advisory Council on Vocational Education drew five operational principles:

1. Vocational education cannot be meaningfully limited to the skills necessary for a particular occupation. It is more appropriately defined as all of those aspects of educational experience which help a person to discover his talents, to relate them to the world of work, to choose an occupation, and to refine his talents and use them successfully in employment. In fact, orientation and assistance in vocational choice may often be more valid determinants of employment success, and therefore more profitable uses of educational funds, than specific skill training.

2. In a technology where only relative economic costs, not engineering "know how," prevent mechanization of routine tasks, the age of "human use of human beings" may be within reach, but those human beings must be equipped to do tasks which machines cannot do. Where complex instructions and sophisticated decisions mark the boundary between the realm of man and the role of the machine, there is no longer room for any dichotomy between intellectual competence and manipulative skills and, therefore, between academic and vocational education.

3. In a labor force where most have a high school education, all who do not are at a serious competitive disadvantage. But at the same time, a high school education alone cannot provide an automatic ticket to satisfactory and continuous employment. Education cannot shed its responsibilities to the student (and to society in his behalf) just because he has chosen to reject the system or because it has handed him a diploma. In a world where the distance between the experiences of childhood, adolescence, and adulthood and between school and work continually widen, the school must reach forward to assist the student across the gaps just as labor market institutions must reach back to assist in the transition. It is not enough to dump the school

leaver into a labor market pool. The school along with the rest of society must provide him a ladder, and perhaps help him to climb it.

4. Some type of formal occupational preparation must be a part of every educational experience. Though it may be well to delay final occupational choice until all the alternatives are known, no one ought to leave the educational system without a salable skill. In addition, given the rapidity of change and the competition from generally rising educational attainment, upgrading and remedial education opportunities are a continual necessity. Those who need occupational preparation most, both preventive and remedial, will be those least prepared to take advantage of it and most difficult to educate and train. Yet for them, particularly, equal rights do not mean equal opportunity. Far more important is the demonstration of equal results.

5. The objective of vocational education should be the development of the individual, not the needs of the labor market. One of the functions of an economic system is to structure incentives in such a way that individuals will freely choose to accomplish the tasks which need to be done. Preparation for employment should be flexible and capable of adapting the system to the individuals' need rather than the reverse. The system for occupational preparation should supply a salable skill at any terminal point chosen by the individual, yet no doors should be closed to future progress and development.[27]

One of the most hopeful signs for the future of occupational preparation was the unanimity with which the Council comprised of vocational educators, general educators and management, labor and public members endorsed these principles and then recommended a system of education for employment based on them.

1. Occupational preparation should begin in the elementary schools with a realistic picture of the world of work. Its

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[27]*Ibid.*, p. 49.

fundamental purposes should be to familiarize the student with his world and to provide him with the intellectual tools and rational habits of thought to play a satisfying role in it.

2. In junior high school economic orientation and occupational preparation should reach a more sophisticated stage with study by all students of the economic and industrial system by which goods and services are produced and distributed. The objective should be exposure to the full range of occupational choices which will be available at a later point and full knowledge of the relative advantages and the requirements of each.

3. Occupational preparation should become more specific in the high school, though preparation should not be limited to a specific occupation. Given the uncertainties of a changing economy and the limited experiences upon which vocational choices must be made, instruction should not be overly narrow but should be built around significant families of occupations or industries which promise expanding opportunities.

   All students outside the college preparatory curriculum should acquire an entry-level job skill, but they should also be prepared for post-high school vocational and technical education. Even those in the college preparatory curriculum might profit from the techniques of "learning by doing." On the other hand, care should be taken that pursuit of a vocationally oriented curriculum in the high school does not block the upward progress of the competent student who later decides to pursue a college degree. ·

4. Occupational education should be based on a spiral curriculum which treats concepts at higher and higher levels of complexity as the student moves through the program. Vocational preparation should be used to make general education concrete and understandable; general education should point up the vocational implications of all education. Curriculum materials should be prepared for both general and vocational education to emphasize these relationships.

5. Some formal post-secondary occupational preparation for all should be a goal for the near future. Universal high school education is not yet achieved but is rapidly approaching reality. Post-secondary enrollments are growing, and before many years have passed, the labor force entrant without advanced skills gained through post-secondary education, apprenticeship, or on-the-job training will be at a serious disadvantage. Universal advanced training will bring increased productivity, higher standards of living, and greater adaptability, to the profit of the economy as well as the individual. If post-secondary education and training is to be universal, it must be free. Fourteen years of free public education with a terminal occupational emphasis should be a current goal.

6. Beyond initial preparation for employment, many, out of choice or necessity, will want to bolster an upward occupational climb with part-time and sometimes full-time courses and programs as adults. These should be available as part of the regular public school system. They should not be limited to a few high demand and low cost trades, but should provide a range of occupational choice as wide as those available to students preparing for initial entry.

7. Any occupation which contributes to the good of society is a fit subject for vocational education. In the allocation of scarce resources, first attention must be paid for those occupations which offer expanding opportunities for employment. In the elementary and junior high school, attention can be paid only to groups of occupations which employ large numbers of people, and instruction must be restricted to broad principles, common skills, and pervasive attitudes which will be useful in a broad range of employment. These restrictions are less and less valid as the student goes through high school and junior college, until, in adult education, instruction is justified in even the most restricted field if it is valuable to the individual and to society.

8. Occupational preparation need not and should not be limited to the classroom, to the school shop, or to the

laboratory. Many arguments favor training on the job. Expensive equipment need not be duplicated. Familiarization with the environment and discipline of the workplace is an important part of occupational preparation, yet is difficult to simulate in a classroom. Supervisors and other employees can double as instructors. The trainee learns by earning. On the other hand, the employer and his supervisors may be more production than training oriented. The operations and equipment of a particular employer may cover only part of a needed range of skills, necessitating transfer among employers for adequate training. The ideal is to meld the advantages of institutional and on-the-job training in formal cooperative work-study programs.

9. Effective occupational preparation is impossible if the school feels that its obligation ends when the student graduates. The school, therefore, must work with employers to build a bridge between school and work. Placing the student on a job and following up his successes and failures provides the best possible information to the school on its own strengths and weaknesses.

10. No matter how good the system of initial preparation and the opportunities for upgrading on the job, there will always be need for remedial programs. Remedial programs will differ from the preventive in that many of the students will require financial assistance while in training; the courses must be closely oriented to the labor market to assure a quick return to employment; and the trainee will be impatient of what may seem to be the "frills" of regular vocational programs.

11. At every level from the elementary school through the post-secondary, adult and remedial programs, there will be those with special needs as defined by the 1963 Act. For both humanitarian and economic reasons, persons with special needs deserve special help.

12. Many communities are too small to muster sufficient students for a range of occupational offerings broad enough to provide realistic freedom of occupational choice. Potential students, often those with the greatest

needs, live in areas too isolated for access to meaningful training. Others come from a home and neighborhood environment which makes sound preparation for life and employment difficult. An adequate system of occupational preparation will provide residential facilities wherever their absence presents an obstacle to anyone in need of education and training.

13. The public system for occupational preparation must be supported by adequate facilities and equipment, buttressed by research and innovation, and by the preparation and upgrading of competent teachers, counselors, and administrators. To assure constant improvement, it must provide for constant evaluation and reporting of problems and accomplishments.

14. The system of occupational preparation cannot operate in a vacuum. Data must be made available on public and private training opportunities to eliminate undesirable duplication. Data on supply and demand for various occupations must be available on a broader and more accurate basis. But total training opportunities must be based, not on the number of jobs which are available, but on the number of persons needing training.[28]

Even more impressive than the Vocational Education Advisory Council's unanimous report was the fact that the American Vocational Association appeared generally pleased with it. Perhaps it was the fact that while criticizing some of the traditional practices of vocational education, the Council was even more sharply critical of the general education curriculum as "preparation for nothing" and of the Office of Education for timidity in its leadership role. Undoubtedly involved was the fact that, though critical of the past and present, the Council recommended expenditures of $1.6 billion per year for a system in which vocational educators would play a major role, but with built-in incentives for achieving the announced objectives. Despite these self-interest motivations, however, there is indication of a willingness to change and a hunger for leadership.

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[28] *Ibid.*, pp. 50-52.

Many vocational educators seek avidly for better ways of teaching skills, and most attempt to keep up with the latest developments in their fields. There appears to be general endorsement of efforts to broaden training from individual skills to related clusters. There is resistance to using vocational education funds for teaching "world of work" concepts and extending its use below the high school level. Opinion is divided on enlarging the post-secondary effort, with state directors of vocational education tending to be high school oriented and junior college administrators seeking a larger "cut." The concept that the schools should retain some responsibility until the student is successfully placed in a permanent job is more acceptable to vocational than to general or academic educators.

The structure is more resistant to change than the individuals within it. The across the board 50-50 federal-state matching formula gives no indication of national priorities. State administrative structures tend to perpetuate past allocations. Though not required by law, states tend to extend matching requirements to the local level rather than distributing funds according to need. Until the current civil rights controversies, the Office of Education had no reputation for aggressiveness in its dealings with the states, and the vocational education division has been historically one of its least aggressive components. Secretaries and assistant secretaries of HEW and commissioners of education have been more concerned with general and higher education and have tended to leave vocational education isolated and without leadership. For the nation as a whole, it is an anomaly that preparation for employment currently merits an annual federal investment of $256 million compared to $4.5 billion for higher education, $3.2 billion for elementary and secondary general education and $1.8 billion for remedial work and training programs primarily for those who enter the labor market with inadequate preparation.

While the authors of the Vocational Education Act of 1963 were not aware of all the reorientation now apparent, they contributed to the initiation of some of it and the emphasis of the Act is a compatible one. However, the experience under the Act suggests important lessons for the implementation of new philosophies. If vocational education is to be

reoriented, the availability of funds must be tied to the achievement of endorsed objectives. This can be done by specifying the uses of funds or by varying matching requirements in favor of higher priority objectives. Special incentives should be provided to encourage innovation, improve performance and develop favorable employment results. Evaluation by area, school, occupation, population group and teaching method is badly needed to identify strengths and weaknesses, and data must be available to make overall evaluation possible. Funds should be freed by broader definition of vocational education or separate appropriations for pre-vocational orientation in elementary and junior high years. Expansion of post-secondary offerings and enrollments needs acceleration. Residential schools are a must if there are to be adequate offerings in areas of scattered population. Cooperative work-study programs should be expanded and merged with income providing work-study programs. The needs of big city schools and academically and socio-economically handicapped students deserve high priority. State boards of vocational education are, in general, less progressive than the schools themselves, and leverage is needed to move them toward new objectives. As always, there is need for more money—much more—but there is also a crying need for more progressive and aggressive leadership at the national level.

The Vocational Education Advisory Council in its December 1967 report recommended specified priorities for a $1.6 billion vocational education package. These priorities included $500 million for the general program, $350 million for work-study, $200 million for innovative programs, $200 million for residential schools, $300 million for the socially, economically and culturally disadvantaged and $15 million for homemaking.[29] (The latter was a compromise removing homemaking from the definition of vocational education and requiring Congress to decide specifically how much it wanted to spend on this durable program.) The Administration countered by introducing its "Partnership in Earning and Learning" bill with a $15 million price tag, though picking up some of the non-cost recommendations from the Council's report.

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[29] *Ibid.*, p. 54.

Congressman Roman Pucinski subsequently introduced a bill, H. R. 16460, which, though it shows American Vocational Association influence in several provisions reinforcing the separatism of vocational and general education, endorses the monetary provisions and some of the philosophical positions of the Advisory Council's report The vocational education establishment carries considerable political weight within the states and with their Congressional delegations. Indications are strong that, barring a severe budgetary "crunch," the Ninetieth Congress would be amenable to a substantial expansion of federal vocational education appropriations. Additional funds for employment preparation are badly needed but are likely to be well spent only if enclosed in a legislative mandate which provides persuasive leverage to a leadership willing to use it.

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