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ABSTRACT

o-day national conference was held to examine vocational education and training policy for today and tomorrow. Speakers from both the public and private sectors shared their expertise in various areas affecting vocational education. Focus of the papers and panel discussions presented during the conference was on the following topics: the possible impact of the international and domestic business environment on vocational education, the future rola of the federal government in vocational education, the future role of state and local governments in vocational education, the impact of technological advancement on vocational education, and the advantages of a closer alliance between vocational education and business. Conference participants provided explanations of past and current trends in vocational education policy, practical speculation on the direction of those trends in the future, and possible responses to those trends. (This summary report outlines the major ideas presented at the conference and includes a copy of the conference agenda, a list of conference presenters and panelists, and a list of registered conference participants.) (MN)



SUMMARY REPORT OF THE NATIONAL CONFERENCE ON VOCATIONAL EDUCATION AND TRAINING POLICY FOR TODAY AND TOMORROW

March 15-16, 1984
Department of Commerce Auditorium
Washington, DC

Sponsored by

National Advisory Council on Vocational Education

National Commission for Employment Policy

Office of Vocational and Adult Education U.S. Department of Education

National Center for Research in Vocational Education

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"No domestic challenge is more crucial/ than providing stable, permanent jobs for all Americans who want to work...

"Education, training and retraining are fundamental to our success. Labor, management, and government at all levels can and must participate in improving these tools of growth."

President Ronald Reagan State of the Union Address January 25, 1983

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In the spring of 1984, the National Advisory Council on Vocational Education, Office of Vocational and Adult Education, U.S. Department of Education, the National Commission for Employment Policy, and the National Center for Research in Vocational Education, conducted a two-day conference on Vocational Education and Training Policy for Today and Tomorrow

The purpose was to enable members of related fields to share their practical views of areas that are influencing vocational education now and in the future. The conference sought opinions and insights from its speakers on:

- o the possible impact of the international and domestic business environment on vocational education
- o the future role of the federal government in vocational education
- o the future role of the state and local government in vocational education
- o the effect of technological advancement on vocational education
- o the advantages of a closer alliance between vocational education and business

Conference articipants provided:

- o explanations of past and current trends
- o practical speculation on the direction of those trends in the future
- o possible responses to those trends

Speakers from both the public and private sectors spoke at this two-day conference. They included speakers from widely varying fields who shared their expertise in the areas that affect vocational education.



Their thoughtful views should receive serious consideration from those who are genuinely concerned with continuing excellence and relevancy in education.

Recent questions about the effects of rapid economic, technological and organizational change have brought into focus the need for a thoughtful assessment of the trends that concern vocational education.

The determination of a flexible, well-considered vocational education mission will enable vocational education to better prepare for the expectations and demands of its future role.



INTRODUCTION

The watchword in vocational education today is change. Teaching students marketable skills in an era of headlong technological advancement is a perplexing and absorbing challenge for those working in the field.

Council Chairman Edward D. Miller, in opening the Conference, said, "This conference grew out of concern by the National Advisory Council on Vocational Education, and shared by the other sponsors, over how effectively education and training programs will respond to the fast and ever-changing needs of the work place, as well as the needs of students for training and retraining which will provide them with the skills to participate productively in the work place."

Perhaps more so than any other occupational group, vocational education students reflect the impetus and direction of the country. Through their skills and abilities the plans of American industry and business will be executed. They will carry technological advancement to a tangible, beneficial conclusion.

But explosive advances in technology are making facilities and equipment obsolete long before their useful lives can be realized. At the same time, much of the skills and knowledge base that supports those facilities and equipment is undergoing change.

These changes are posing one of the most current challenges to vocational educators: continuously training and retraining workers to function productively in the workplace.

Current legislation reflects this need. New vocational education legislation emphasizes the need to match training programs with real job opportunities. It also offers special incentives for adult retraining and greater involvement of business and industry in the planning and development of programs.

Under the Job Training Partnership Act, seventy cents on the dollar will be spent on training, with the emphasis on acquiring marketable skills and future employment. In addition, the JTPA mandates that the business community play a major



role in targeting programs and cooperating with vocational education. With private sector involvement, both statutes hope to encourage in vocational education programs a "pro-active" response to job market changes rather than a "reactive" response.

The changing requirements in labor market needs and entry-level skills are taking place, not only on a domestic plane, but also on an international plane. Foreign labor markets have become more skilled, presenting a viable labor alternative for some major corporations.

Both domestically and internationally, business and industry are demanding a work force with a strong background of technical knowledge, and the communication skills that will enable them to make a flexible response to change.

Sue Lerner of Edison Electric Institute, Washington, D.C., told the Conference:

"Business is increasingly dissatisfied with the products of education. Numbers of businesses cannot get the kinds of people they want. So, in particular areas, a business will go into a local junior college or a local college and offer to pay for a particular program, or hire the personnel out of the university or out of a college or whatever institutional structure it is, to train employees, or potential employees in a particular activity.

"So, business is paying for education that in a prior orientation was paid for out of the tax base. That is a different way of looking at who pays. That also is something which has to be seriously examined."

How to provide these skills to vocational students within the context of rapid economic, organizational, and technological change is the basic nature of the challenge to vocational education today.



INTERNATIONAL TRENDS

The United States remains the leader of the economic world. First in economic stability, world market viability, productivity and technology development.

The international economic environment has been going through rapid changes as a result of international events such as the oil crisis, the Middle East conflict, value of the U.S. dollar overseas, and the emerging use of high technology, by the industrial world.

These changes have worldwide implications for our relationships with the industrial countries throughout the world.

National Security of our country is at stake because of our dependency upon the U.S. ability to maintain technological lead.

Greater international economic competition throughout the world is based upon emerging and advanced technologies. The leading world marketplace still rests here in the United States.

The United States has been the world's leading developer of technologies over the past twenty or more years. Through the use of U.S. technological developments, other foreign governments and foreign industries are reaching, and in some cases exceeding, the U.S. world leadership position in selected technological areas.

competition is International economic having U.S. effects in the Foreign far-reaching technological advancement, made through the use of U.S. research, is causing major changes in U.S. production, marketing, social structure, organizational structure, and skilled employment requirements.

U.S. industry's missions have changed to challenge this new worldwide economic competitive situation.



D. Bruce Merrifield of the Department of Commerce commented, "This is a critically important time in our history. We are faced with major forces of change that are continuously restructuring U.S. and world economies. The explosion of technology over the last thirty years, that's created something like ninety percent of everything we know in the sciences, making facilities and equipment obsolete long before their useful lives can be realized or are often amortized; as well, the skil's and knowledge base that goes into those is changing as rapidly."

Vocational education's mission is challenged by these developments to support U.S. business and industry and to provide trained, skilled employees. The new trained, skilled employees need to be able to work in a new environment with both specialized skills and a higher level of general skills, which will enable workers to be flexible in transferring their skills as new applications arise due to developing technology.

NACVE member Vernon Broussard, Associate Professor at the University of Southern California, capsulized this concept in his summation. He said, "While we need to continue our efforts with regard to maintaining our preeminence in the areas of technology, it is important to focus on those "basic" skills It is of equal importance to focus on those hidden skills—the skills of self-confidence ... of persisting ... of thinking for oneself ... of loving and caring for others—recognizing that we live in a global world and a truly global economy."



FEDERAL GOVERNMENT TRENDS

The Federal Government has been moving in support of local determination with less reliance on direct Federal intervention. The movement in the Federal Government has been toward achieving a clearer division of responsibility.

is based on the belief that local determination and responsibility can best meet the needs of the community, which is closest to the problems and most aware of the circumstances which impact on the solutions. David B. Walker, Assistant Director for Governmental Structures and Functions, Advisory Commission for Intergovernmental Relations said, "The issue is that of the role of the federal government as it is related to the roles of the state and local governments in vocational-technical education.

"The Reagan Administration believes that greater state and local government control through local determination is the way of the future. This new approach will bring about changes in our attitudes and viewpoints in addressing the future of vocational-technical education."

The thrust of this movement has been through three policy objectives:

- o The Federal Government is implementing a policy of deregulation of State programs that receive federal funds.
- o New legislation attempts to eliminate duplication and rigidity by allowing greater flexibility in administering programs to the States.
- o Greater flexibility and self-determination in making program funding decisions permit states to better prioritize the use of federal dollars, prevent administrative overlap in similiar programs, and more accurately target State programs to meet their individual needs.



NACVE member William E. Hardman, President, National Tooling and Machining Association, summarized the issue as follows:

"I think we see the federal government's role and the trend that has started under the Reagan administration as perhaps the beginning of the proper way to do things. By that, I mean government's role has to be a very limited one in the lives and affairs of the American people, and particularly in the way they are trained for jobs and take jobs.

"The proper role of the Federal government, as we see it, should be to identify areas of national need and national problems, areas of national concern," he continued. "The Federal government should be monitoring the work force in all of the skills and technical and semi-technical areas, to make sure, from a matter of economic and military security, that we do not have any great gaps in any of the skilled trades or any of the technical areas of know-how.

"This is the kind of thing we see for the Federal government -- identify those kinds of problems, and If the 50 publicize them to the local areas. states have control, that means there are 50 different units of government competing to do a better job in reaching the goals that have been identified. If we multiply that by the number of counties, cities, and local communities, it becomes thousands and thousands of competing units that can constartly refine and improve in a cooperative way -- with only two entities involved, remember, the employers and the educators -- to constantly improve the role of vooational education."



STATE AND LOCAL TRENDS

With the movement from the Federal Government toward the states, new roles are being developed on a state by state and local government level.

Governors and state legislatures must review and analyze vocational education laws, regulations and funding plans. States must interrelate their economic development and vocational education strategies to meet the challenges of organizational change.

Vocational and technical education will now have new principal partners, and the federal government will continue to play a limited partnership role.

With the rapid social, economic, business, and technological changes taking place in the U.S., vocational education must expand its partnership relations to include U.S. industry and business in order to develop vocational educational programs.

To meet national, state and local needs for skilled employees in a timely fashion, vocational education must involve business and industry to a greater extent than is now the case.

Each State and Local government must apply the principles of supply and demand to vocational education in their needs assessment and program development planning.

Vocational educators must match the supply of human resources—local or migrant, unskilled, semiskilled, or highly skilled—to employment opportunities at appropriate skill levels.

Vocational educators should apply the demand concept to both students and employers to correctly gauge human motivation and expectations.

U.S. industry and vocational education must confront the new challenges with new approaches to the technological revolution.



Industry's new approach is teamwork between management and employees to create a working relationship of coordination, cooperation, and communication with a common mission. Vocacional education must integrate this approach into its programs to keep pace with the new business and industry trends.



U.S. BUSINESS AND INDUSTRY TRENDS

In the view of Conference participants, U.S. business and industry trends are increasingly affected by international competition. The results are changes in business organization and methods of production, and in utilization of technology and human resources.

To be competitive in the U.S. and world markets, U.S. business and industry have been required to reassess their industrial goals and redefine their priorities.

A product of U.S. industries strategic planning was the development of new mission statements, a set of guiding principles, and a plan to accomplish the mission.

Vocational education now is challenged to assess these new missions, principles and plans in order to meet industry's needs.

Some of these missions were defined as:
o a commitment to excellence

- o a commitment to sustain growth for a leading role in the world economy
- o aggressively seeking new opportunities and business ventures that match our skills and capabilities
- o giving each employee the opportunity, environment, and incentive to promote maximum participation in meeting the collective goals
- o utilizing high technology in manufacturing and cost competitiveness in each manufacturing unit

More specific directions taken by U.S. industry today relate to changes in the workplace, and in the work force and its emerging skill requirements.

- o There is emphasis on overall promotion of the quality ethic, and an all-out drive in product quality.
- o New work patterns are emerging from this new work ethic: motivation, team concepts, self-management, autonomous work groups and greater employee participation and interaction.



- o These new patterns require improved communication, coordination, and cooperation while focusing on interpersonal and problem solving skills.
- o Advanced technologies are now being applied to improve product quality and productivity through new, advanced manufacturing and assembly techniques—just—in—time inventory centers and automated processing—in order to improve quality and reduce costs.

William MacKinnon, Vice President, Personnel Administration & Development Staff, General Motors, addressed the Conference and outlined some key thoughts about the vocational educational system, and about the future.

He observed:

- o We need bright, capable people in our technician jobs who can read well, reason well, and have good interpersonal skills. We can't afford any other kind.
- o We still have the same old problems; many kids who don't do well academically are steered by parents and teachers into voc-ed programs. If they take easy electives, and continue to goof off, we end up with the graduates who can't compete and need remedial training.
- o We should start at the fifth, sixth, and seventh grades with vocational awareness programs so that the youngsters can set goals, take the tough courses, do well, and be proud of their career choices.
- o Manufacturers must donate more of their current equipment to the schools and help train the teachers on that equipment. That's how you get current technology into the schools.

He also commented, "As product improvements in safety, emission, fuel economy, and performance become more complex, we and the dealers became concerned about training people for skills that would make them equal to the challenge. The mission to increase their technical competence was never greater because the pace of technological change in our products was never greater.



"We are looking at an unusual situation to be sure, but again it reflects an increased use of community-based educational institutions to bolster vocational skills. Many plants are studying additional ways to utilize these institutions."



VOCATIONAL EDUCATION TRENDS

Panelist Matthew J. Puleo, Vice President, Human Resources Group; Yankelovick, Skelly, and White, Inc., observed:

"The only thing that we really are positive about today is that change is with us forever, and in fact, change and knowing that we will always have change is the only thing that we can count on. That is probably going to be the component for success in the future, not only in terms of education, but in the ability to respond to the business challenges of tomorrow."

If occupations are to undergo rapid and unpredictable changes, how can vocational education and public training programs respond?

One of the most often repeated recommendations is to improve the basic education of all future workers. Employers obviously want entry-level workers to have better communication skills than current computational applicants demonstrate. American Vocational Association Executive Director Gene Bottoms' comment on this issue is quite relevant. He said:

"If jobs are changing as rapidly as indicated because of the applications of new and improved technology, this has implications for vocational education, for it suggests that we should stress the historical roots of the field. That is, we should strengthen the 'E' in vocational education."

He further noted that the early advocates of vocational education stressed the "E." To them, vocational education was a way to link academic knowledge to the practices of an occupational field. Vocational education included an understanding of the scientific and technical knowledge that underlies practice.

The call for better basic preparations of new workers reflects changes in entry-level requirements. As these requirements increase and become institutionalized, those individuals who have not acquired basic skills will find it increasingly more difficult to advance in the job market. That is, as the overall skill demand for the next level increases, the utility of on-the-job training decreases.



Researchers have shown that job demand will be strong in such occupational areas as fast food services, retail trades, and janitorial services. These areas are generally characterized as requiring minimal basic and occupational skills, paying low wages, and having high turnover with little opportunity for career advancement.

Consequently, workers with insufficient skills will be tracked into this tier of jobs. They will remain at that level, their potential dormant, until they acquire the increasingly more complex and interrelated set of basic skills.

The level of basic skills required to move into many entry-level jobs has risen, due mainly to technological change. In order to move into jobs that are career-oriented and upwardly mobile, the vocational education students will need to be specialists with a generalized technical knowledge of their field.

Their training must provide them with the flexibility to adjust to advances in equipment or method. And they must possess the comprehensive reading and communication skills necessary to make these adjustments.

K. Edwin Graham, Director of External Relations Project at the American Council on Life Insurance explained, "The key questions are the attitudes, needs, and institutions of our society changing at such a pace that they outdistance the ability of the social institutions to accommodate those changes; or are they changing at such a rate that, given the time allotted, we can adjust to them sufficiently and retain the social, political, and educational institutions currently in place?

"The work place expects certain skills of the entry level employees and those who move ahead," he continued. "Corporations, labor, education, and government share the responsibility for seeing that those needs are met.

"We must cooperate with each other ... the job market demands it as never before. Education, business, and government must find new and creative ways to work together."



The major trends anticipated by all the participants was for high rates of technological change during the remainder of this century. These changes are expected to have a major impact on the International economic environment, U.S. Federal Government, State and Local Governments, and vocational-technical education institutions.

- o International economic and business environment will exert more influence upon shaping U.S. policies for trained, skilled workers.
- o The trend in U.S. policy will be to rely on greater self-determination for the States through deregulation of federally funded State programs, and the administration of more economically efficient block grants.
- o State and Local Governments will play a more active role in the formulation, control and financing of State programs. State and Local Governments will also need to establish a closer alliance with the private sector to target and formulate their vocational education programs.
- o U.S. business and industry will need to work more close' with the State and Local Governments and vocational-technical education institutions in developing programs, providing technological support, and explaining the private sector's new directions.
- o The trend in vocational-technical education will be toward higher technical skill requirements, greater need for sophisticated communication skills, and an increasing demand for a flexible response to changes in the workplace, in both industrial and service occupations areas.



RECOMMENDATIONS

- o The Federal Government's new role should be more related to the global technological changes taking place. The National Advisory Council on Vocational Education, National Center for Research in Vocational Education, and the Office of Vocational and Adult Education, U.S. Department of Education, should be the repository of knowledge of technological change on an international and domestic level.
- o State and Local Governments and State Advisory Councils on Vocational Education must involve U.S. business and industry to the maximum extent possible in order to remain abreast of the needs and trends in employment.
- o State Advisory Councils on Vocational Education and educational institutions must be me more aware of entry-level employment needs associated with new and emerging technology.
- o There must be changes in delivery systems and instructional programs to accommodate the requirements for expanded adult retraining, non-traditional students, and those who enter the system with different levels of basic skills, science, and math.
- o U.S. business and industry must assess personnel requirements in light of technological advancement and provide vocational educators with sufficient guidance to make changes in curriculum and facilities.
- O U.S. business and industry should also be prepared to support vocational education by providing equipment, teacher training and upgrading, and other assistance necessary to develope the desired job skills.



AGENDA

MARCH 15, 1984

8:00am Registration
Main Entrance
Department of Commerce

8:45-9:15 Welcome and Conference Overview
Edward D. Miller, Conference Chairman and
Chairman National Advisory Council on
Vocational Education
President and Chief Executive Officer
Future Business Leaders of America/
Phi Beta Lambda
Washington, DC

D. Bruce Merrifield
Assistant Secretary for Productivity,
Technology, and Innovation
Department of Commerce
Washington, DC

Kenneth M. Smith, Chairman
National Commission for Employment Policy
President and Chief Executive Officer,
International Management and Development Group
Washington, DC

James W. Griffith
Executive Director, National Advisory
Council on Vocational Education
Washington, DC

9:15-11:45 Topic: Trends and Changes in Federal, State and Local Governmental Roles During the Remainder of This Century

Moderator: George W. Fellendorf President, Fellendorf Associates Silver Spring, MD

9:15-10:00 Speaker: David B. Walker, Assistant Director for Governmental Structures and Functions Advisory Commission for Intergovernmental Relations Washington, DC

10:00-10:30 Break



10:30-11:10 Panel-Reaction and Comment

K. Edwin Graham
Director, External Relations Projects
American Council on Life Insurance
Washington, DC

Jack A. Griffith
President, Griffith Petroleum
Stillwater, OK
President, National Oil Jobbers Association
Washington, DC

William E. Hardman President, National Tooling and Machining Association Ft. Washington, MD

Madeleine B. Hemmings Vice President, Policy National Alliance of Business Washington, DC

Robert M. Worthington Assistant Secretary for Vocational and Adult Education, U.S. Department of Education Washington, DC

11:10-11:30 Panel Discussion and Interchange

11:30-11:45 Audience Question and Answer Period

11:45-1:00 Lunch

1:15-4:00 Topic: Social and Demographic Trends and Changes During the Remainder of This Century

> Moderator: Vernon Broussard Associate Professor

University of Southern California

Los Angeles, CA

1:15-2:00 Speaker: Sue G. Lerner
Director Corporate Planning
Edison Electric Institute

Washington, DC

2:00-2:40 Panel-Reaction and Comment

Gene Bottoms
Executive Director
American Vocational Association
Arlington, VA

Ralph T. Dosher Manager Corporate Education Texas Instruments Dallas, TX

Sybil Kyi
Executive Secretary
Hawa i State Advisory Council on Vocational
Education and State Commission on Manpower
and Full Employment
Honolulu, HI

Matthew J. Puleo Vice President, Human Resources Group Yankelovick, Skelly, and White, Inc.

Robert E. Taylor
Executive Director
National Center for Research in
Vocational Education
Columbus, OF

- 2:40-3:00 Panel Discussion and Interchange
- 3:00-3:30 Break
- 3:30-3:45 Audience Question and Answer Period
- 4:00 Recess

MARCH 16, 1984

9:00-11:15am Topic: Trends and Changes in the Economy

During the Remainder of This Century

Moderator: Jean Hanson

Convergent Systems, Inc.

St. Paul, MN

9:00-9:45 Speaker: William P. MacKinnon

Vice President

Personnel Administration and

Development Staff

General Motors Corporation

Detroit, MI

9:45-10:25 Panel--Reaction and Comment

Dennis D. Bowden Training Coordinato: Lawrence Livermore National Laboratory Livermore, CA

Douglas Ramsey Editor, Business Times New York, NY

Gail Garfield Schwartz
President
Garfield Schwartz Associates, Inc.
Washington, DC

Francis Tuttle
State Director
State Department of Vocational-Technical
Education
Stillwater, OK

10:25-10:40 Break

10:40-11:00 Panel Discussion and Interchange

11:00-11:15 Audience Question and Answer Period



11:15-12:00 Topic: Public Policy and Communication

11:15-11:45 Speaker: Robert S. Goralski
Writer and Lecturer
Washington, DC

11:45-12:00 Audience Question and Answer Period

12:00-1:00 Lunch

1:00-2:15 Panel--Analysis of Policy for Vocational Education and Training

Moderator: Joanne Dwyer

Guidance Counselor

Dauphin County Technical School

Harrisburg, PA

1:00-1:45 Panel: Vernon Broussard George Fellendorf Jean Hanson Francis Tuttle

Wallace Vog

Executive Director

New York State Advisory Council

on Vocational Education

Albany, NY

1:45-2:15 Audience Comments on Policy Requirements

2:15-2:30 Closing Remarks

Edward D. Miller Kenneth M. Smith

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Dr. Francis Tuttle
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