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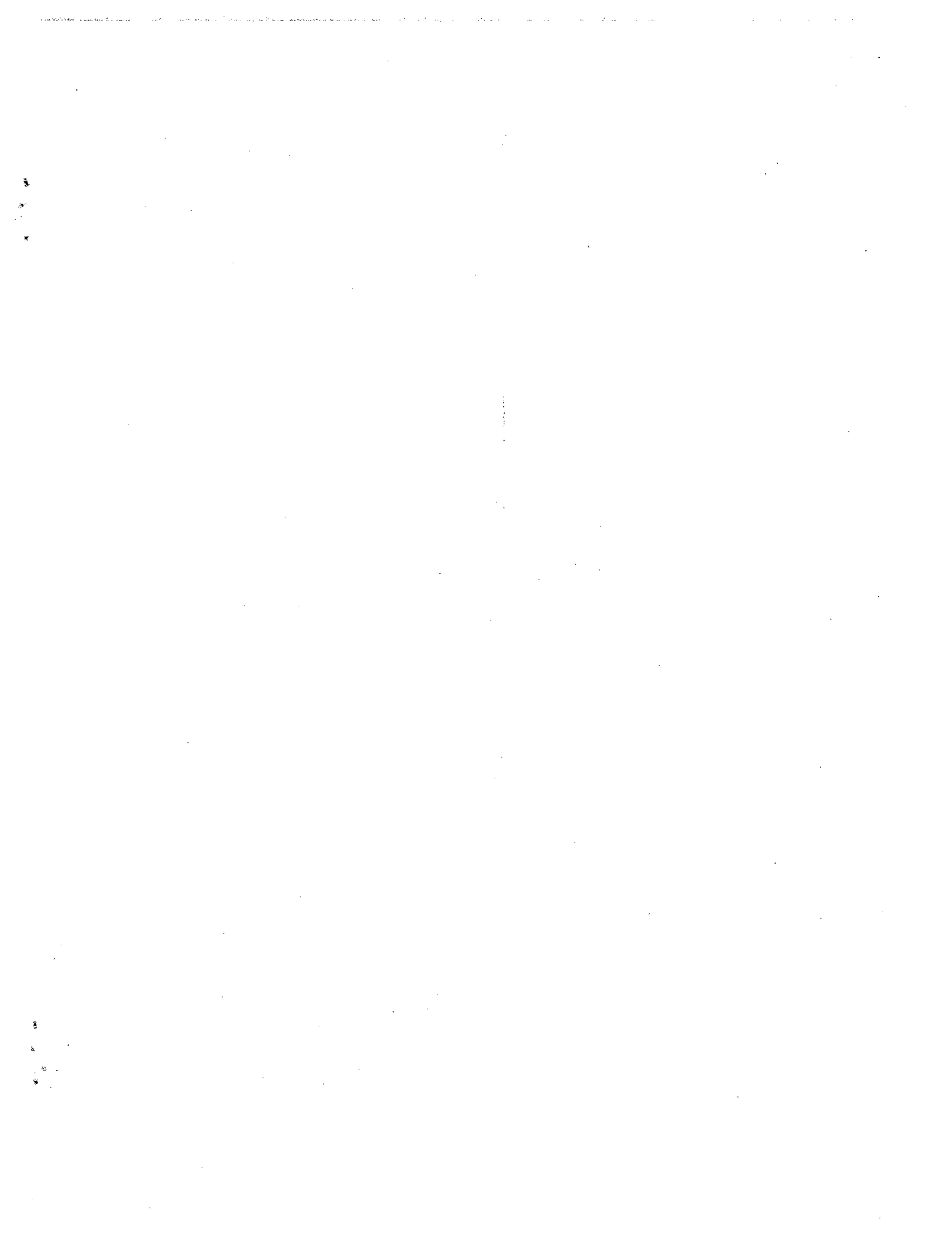
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**REPORT OF THE PANEL
ON SECONDARY
VOCATIONAL EDUCATION
IN
NEW JERSEY**

APRIL, 1989

**THE PANEL ON SECONDARY VOCATIONAL
EDUCATION IN NEW JERSEY**

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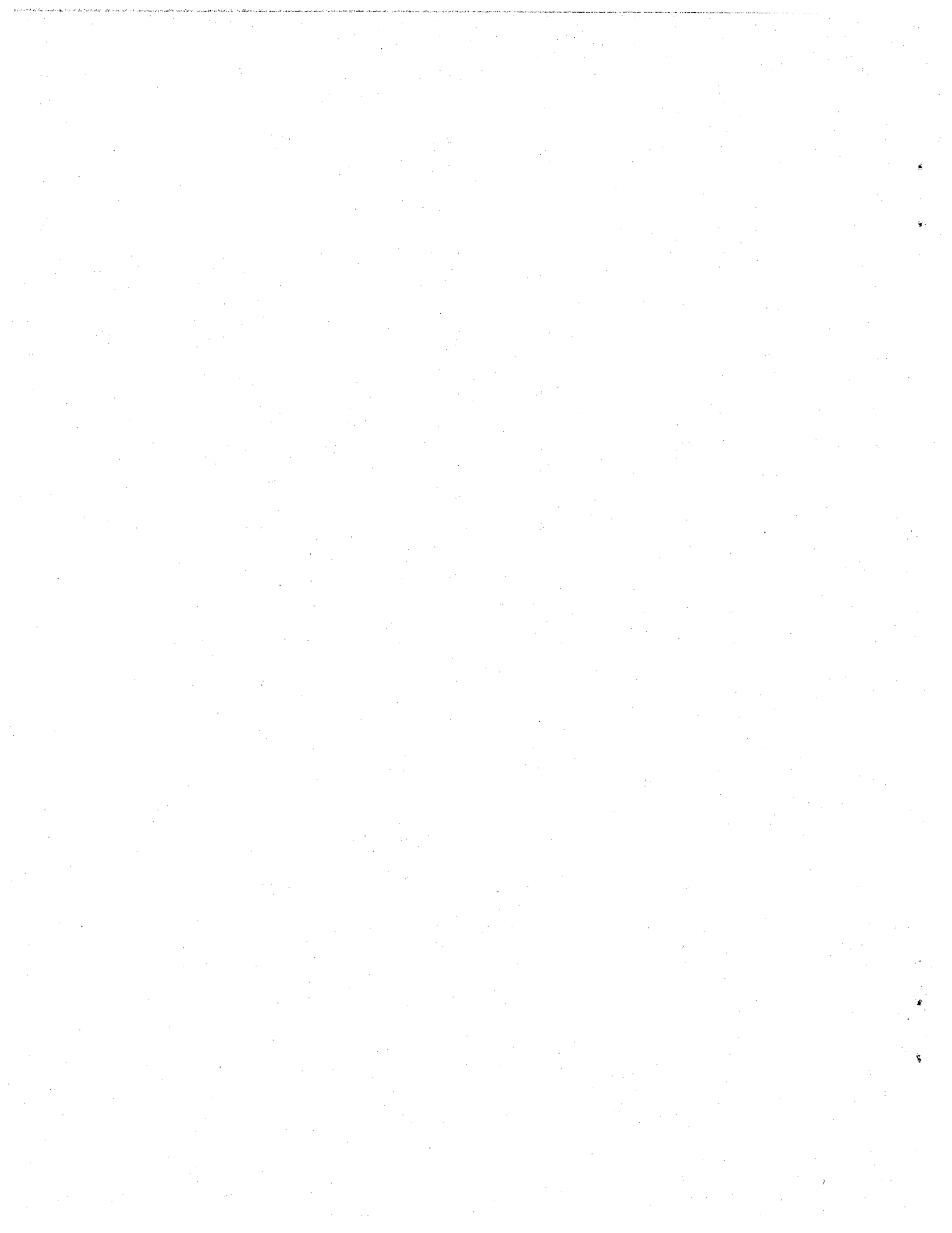
Submitted to:

Saul Cooperman
Commissioner

by:

The Panel on Secondary Vocational Education
in New Jersey

April, 1989

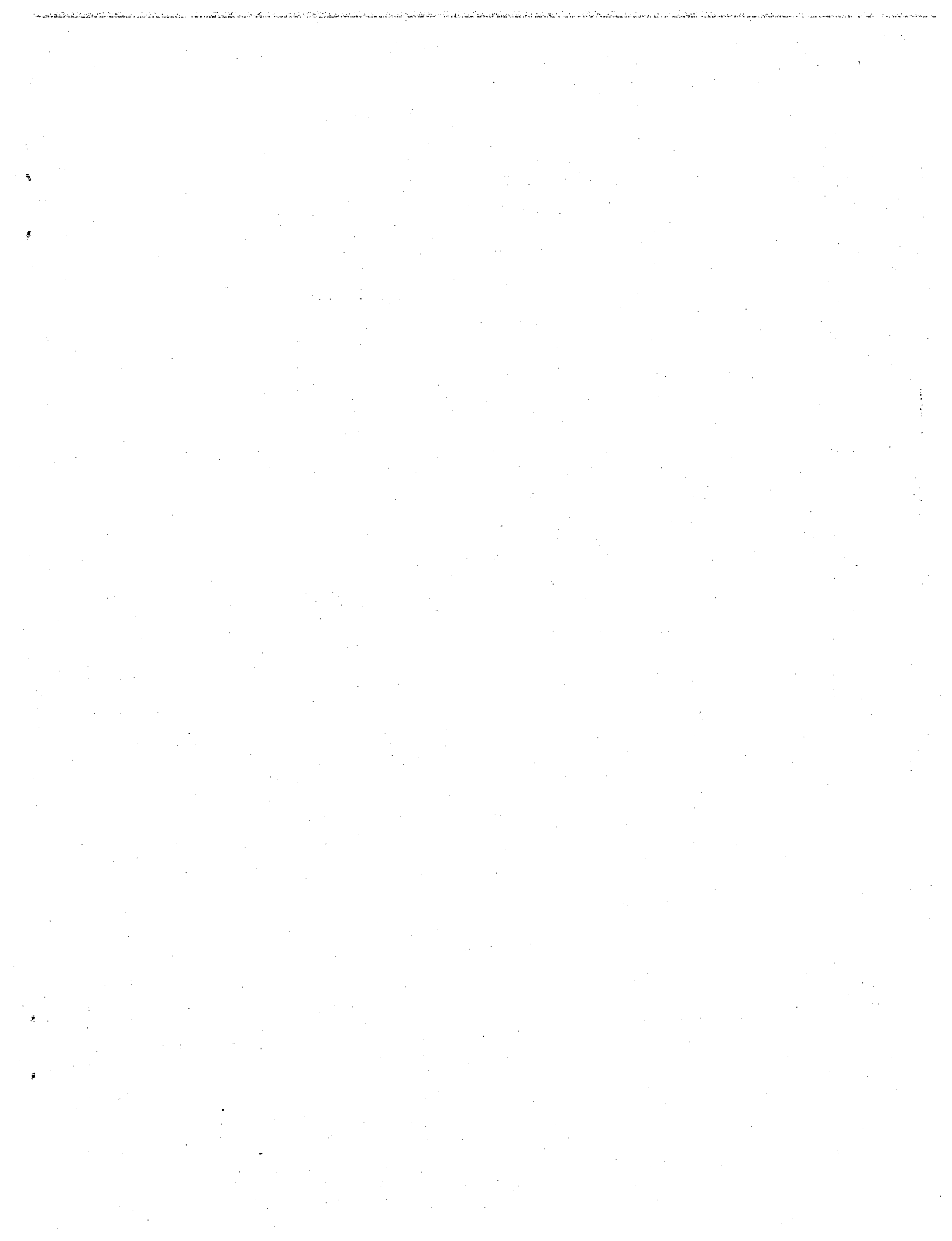


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Mr. William G. Henry: Superintendent, Ocean County Vocational Technical Schools - Toms River, New Jersey

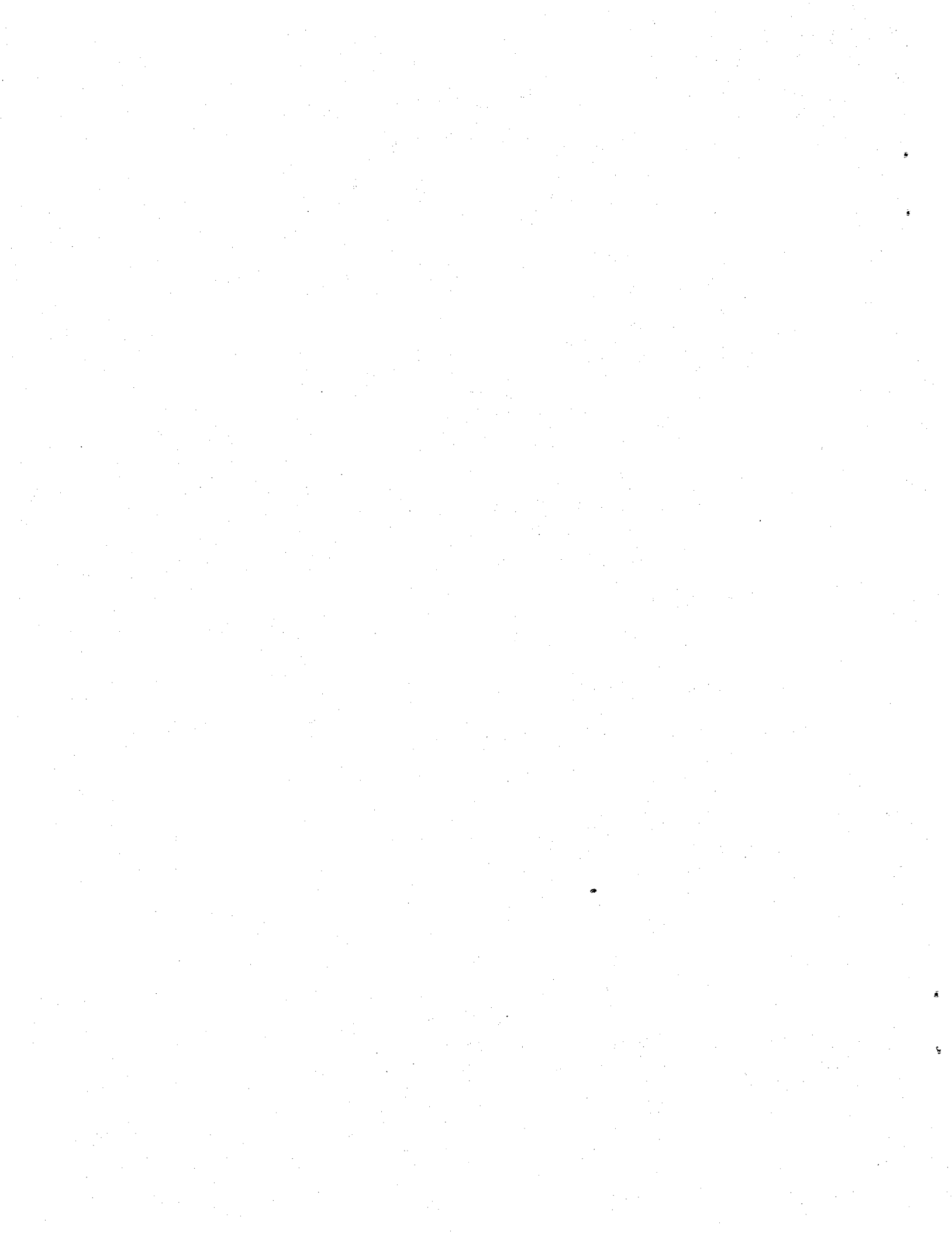
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Ms. Mary Jane Meehan: Assistant Commissioner, Human Resources, New Jersey Department of Labor and Director, Division of Employment and Training, New Jersey Department of Labor - Trenton, New Jersey



Mr. Robert H. Murray: Past Chair, New Jersey State Council on Vocational Education - Trenton, New Jersey

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Mrs. Gerda Peterson: Owner, Peterson's Plumbing and Heating Company - Lavalette, New Jersey

Dr. Rhama D. Pope: Principal, Cumberland County Vocational Technical School - Bridgeton, New Jersey

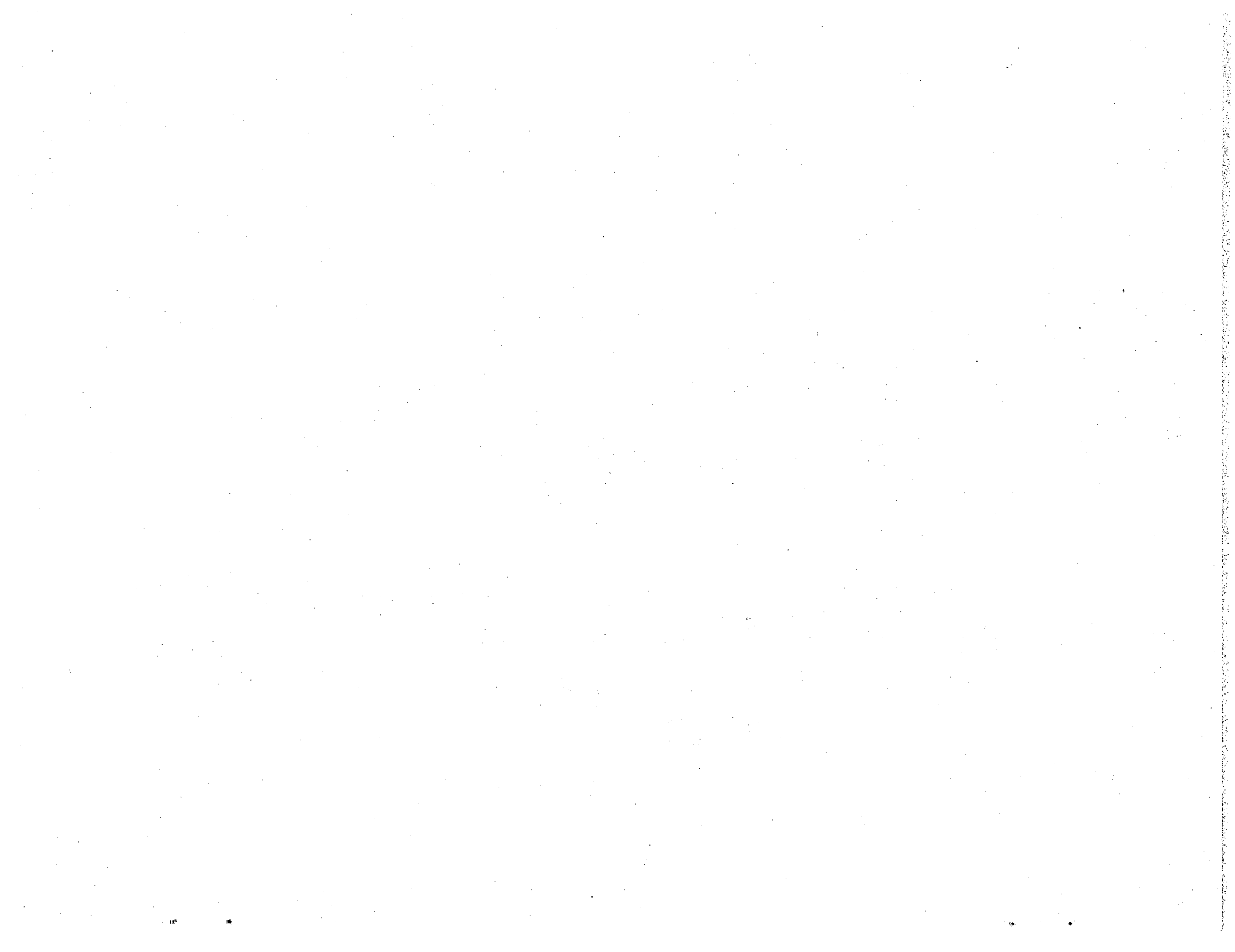
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Dr. Louise Cherry Wilkinson: Dean, Graduate School of Education, Rutgers University - New Brunswick, New Jersey

Dr. J. Henry Zanzalari: Superintendent, Middlesex County Vocational Technical Schools - East Brunswick, New Jersey



ACKNOWLEDGEMENTS

The panel thanks everyone who took the time to speak at the public hearing and who provided papers to the panel. The insights to vocational-technical education of those who contributed to the panel's study were of great assistance.

The panel also thanks the staff of the Department of Education, Division of Vocational Education for their efforts in assisting the panel, in particular, Fred Cappello and Doris Dopkin, who assisted in the final stages of the study with intelligence, grace and good humor.

Finally, the panel thanks Dr. Henry Zanzalari and the staff and students of Middlesex County Vocational Technical Schools for their hospitality as hosts of one of the panel sessions.

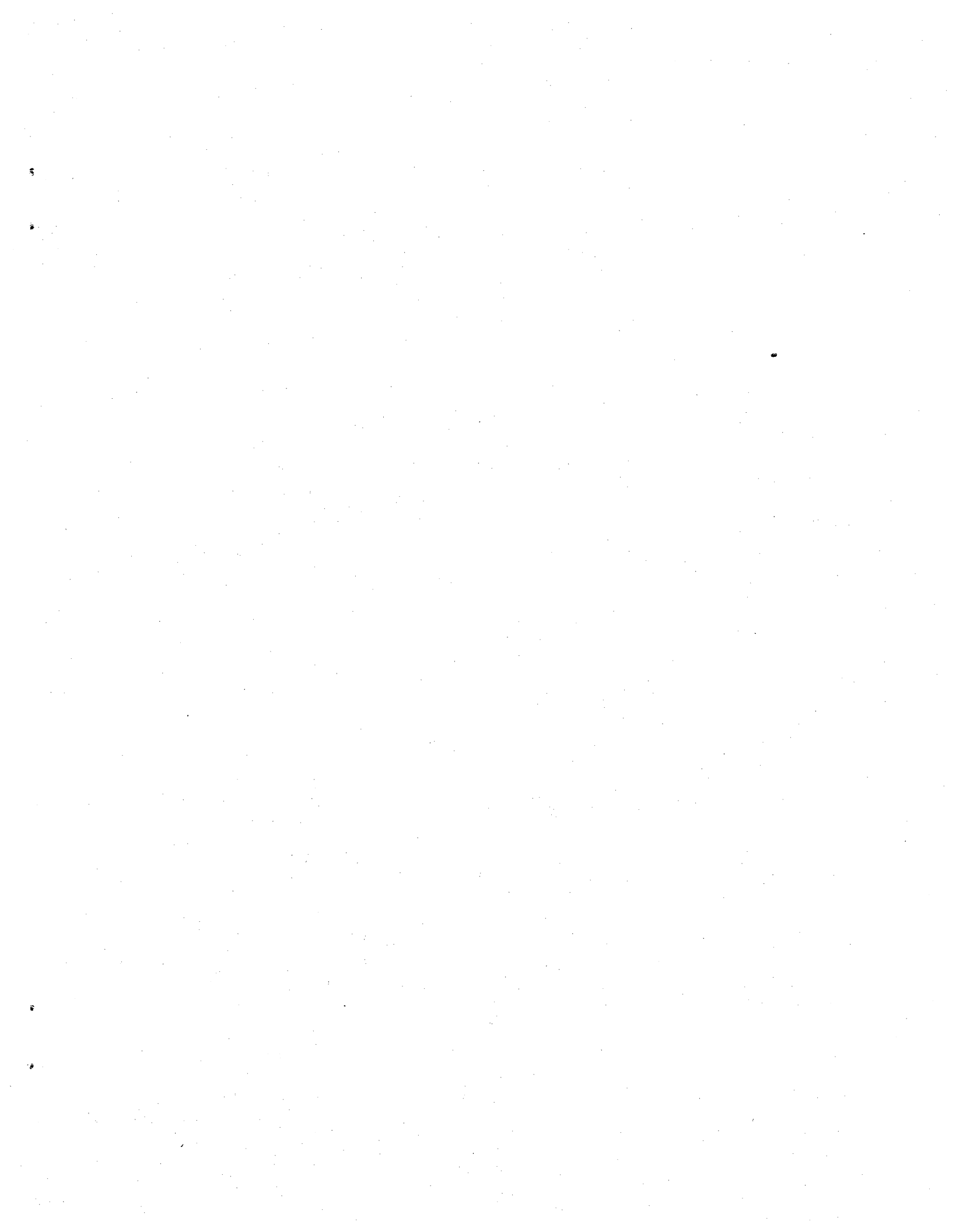
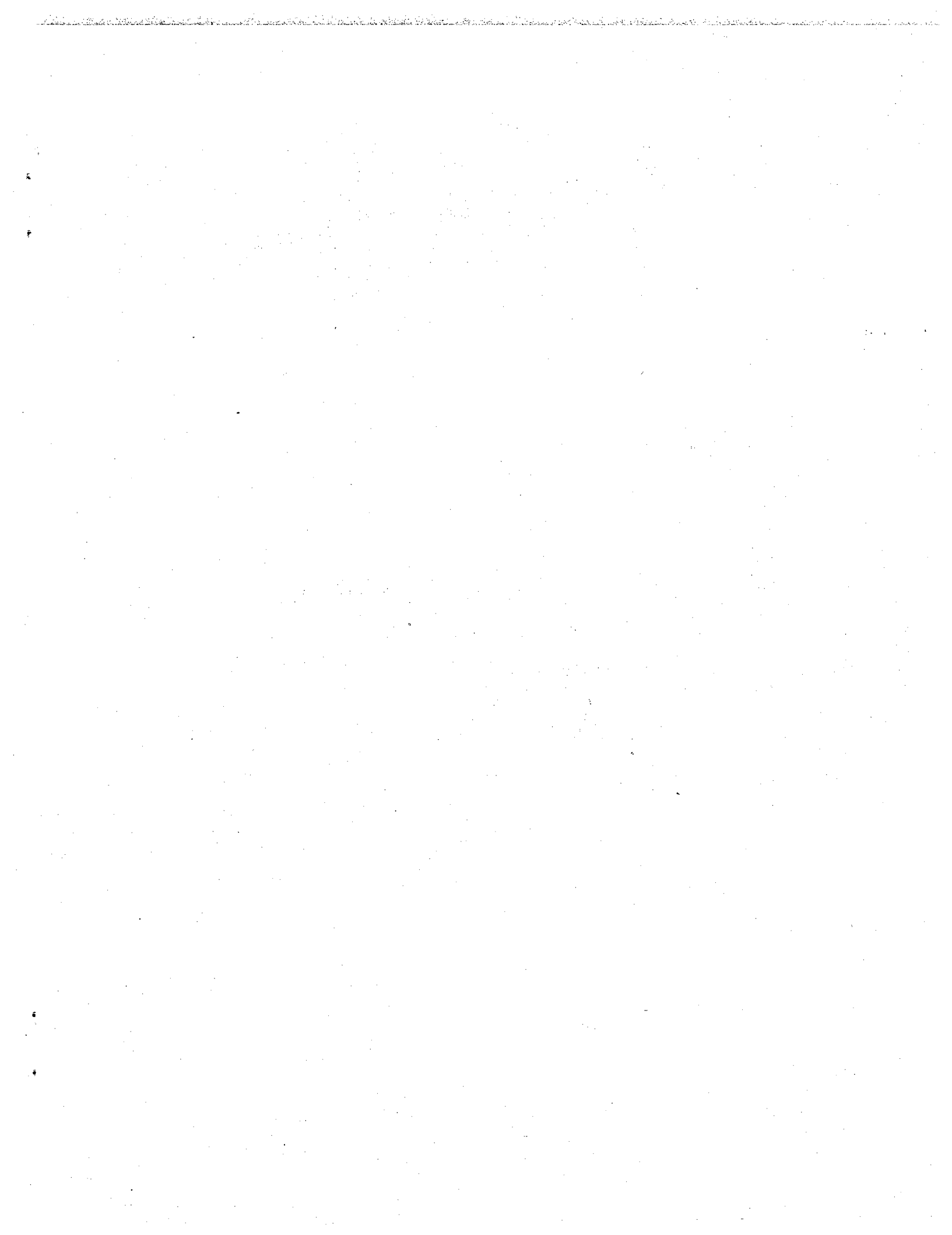


TABLE OF CONTENTS

	PAGE
ACKNOWLEDGMENTS	i
INTRODUCTION	1
CHARGE TO THE PANEL	3
METHODOLOGY	3
GOVERNING CONCEPTS	4
NEW JERSEY'S DELIVERY SYSTEM	7
CURRENT DELIVERY SYSTEM - AN OVERVIEW	7
COUNTY VOCATIONAL SCHOOL DISTRICTS - FULL-TIME AND SHARED-TIME	7
COMPREHENSIVE HIGH SCHOOL DISTRICTS	9
LOCAL AREA VOCATIONAL SCHOOL DISTRICTS	9
CONCLUSIONS	9
BASIC ELEMENTS OF A FUTURE SYSTEM	11
RECOMMENDATIONS	12
BIBLIOGRAPHY	20
GLOSSARY	22



INTRODUCTION

During the next two decades, which will bring us into the twenty-first century, our nation will be faced with unique opportunities and challenges. Economic expansion and technological changes will increase employment opportunities. It is possible that a great many more people will have the opportunity to advance economically and socially through their own efforts than have been able to do so in the past. At the same time these human resources will provide this country with the workforce necessary to compete successfully in the international marketplace.

On the other hand while this opportunity for economic expansion exists, the United States and New Jersey have a growing population at risk of continuing economic disadvantage in the midst of skills shortages and unfilled jobs. There is the risk that a labor shortage may end the economic growth we have enjoyed in the last decade and close off opportunities offered by economic expansion.

There is no better place to begin to prepare our future labor force for these new challenges than the public education system. This provides a major opportunity for the vocational-technical education system to assume a leading role. However, any planning for the future delivery of vocational-technical education must be based on an understanding of demographic and labor market forces and the place of the United States and New Jersey in the global economy.

According to the New Jersey Department of Labor (1987) the state's economy is forecast to continue creating ample employment opportunities. It is estimated that there will be more than two million job openings, including 600,000 new jobs between 1984 and 1995. However, the rapid expansion of the available supply of labor that took place during the past fifteen years will decelerate appreciably. The low birth rates of the 1960's and 1970's translate into fewer workers in the late 1980's and the 1990's. Nationwide the number of 16 to 24 year olds entering the labor market is expected to decline nearly 10%, from approximately 24 million in 1987 to 21.3 million. In New Jersey, it is estimated that new entrants to the labor force will number only 500,000. A recent study undertaken by the Port Authority of New York & New Jersey (1988) reports that job growth in the New Jersey-New York region is expected to outpace labor force growth by 120,000 over the next decade. The same study also concludes that the groups which will account for most of the labor force growth are blacks, Hispanics, women and immigrants.

A possible labor shortage will only be part of the problem. The more important issue will be the existence of skill shortages. As stated in the Port Authority study:

"At the same time that constraints on the labor force are increasing, the education and skill demands of the labor market are rising. Growing employment in service

industries, rapid technological change, and job restructuring due to deregulation and increasing international competitiveness are resulting in the disproportionate growth of higher-skill occupations and increasing skill requirements within most occupations."

The trends in the labor market make it imperative that the education system provide students with basic skills and the skills necessary to participate effectively in the labor market. It is also imperative that the state make a special effort to bring into the labor market less skilled and underutilized population groups. Vocational-technical education is a substantial resource, which with proper support, can play a major role in creating a skilled, world-class workforce.

The National Center for Research in Vocational Education in two publications (1984) explored the value of vocational-technical education in training our national workforce. Those publications state that workers who have had relevant vocational-technical education are more productive and require less on-the-job training than those workers who lack such an education. High school graduates of vocational-technical education tend to have lower rates of unemployment and higher annual incomes than high school graduates who had not had such training. Clearly, vocational-technical education should be considered an essential part of the state's economic development policy.

While vocational-technical education is a valuable part of an economic development policy, we should not lose sight of its value to the overall growth and development of the student. Vocational-technical education not only teaches occupational skills but also provides an opportunity for students to learn in a setting that applies basic academic skills to hands-on tasks. The Unfinished Agenda, The Role of Vocational Education in the High School (1984) states:

"Our society is obsessively concerned with higher education as a preparation for work and downgrades the intrinsic, lifelong value of education. Our secondary schools reflect this obsession by valuing only the college bound. Such a narrow focus ignores the fact that approximately 80 percent of the jobs in America do not require a college degree, and most students will not obtain one.

Vocational education must be a significant part of a quality high school education. Many young people enter high school already turned off to the learning process. More of the same is not the answer. Motivating students not only to do better, but also, in many cases, to remain in school, is a critical task of education. Vocational education is frequently the catalyst that reawakens their commitment to school and sparks a renewed interest in the academic skills. We believe vocational education can help prepare all of our young people for adult life, not only at work and at home, but also in how they use leisure time."

CHARGE TO THE PANEL

The New Jersey Commissioner of Education charged the Panel on Secondary Vocational Education in New Jersey with the responsibility of preparing recommendations for the future structure and delivery system of secondary vocational-technical education programs. Thus, it was the responsibility of this panel to develop a comprehensive plan for vocational-technical education in New Jersey which is consistent with the goals and principles adopted by the State Board of Education. These goals and principles are:

Goals

"All secondary vocational education students will attain the same level of basic skills as non-vocational students in New Jersey.

Secondary vocational education occupational training programs should result in the student obtaining a job in the occupation for which he or she was trained, or in a related job."

Principles

"Educational programs for all public school students must prepare students for a future filled with rapid and dramatic change. When students leave New Jersey public schools, they must have a broad base of skills.

Occupational skills without the basic skills do not prepare students for an uncertain future. Students face a lifetime of training and retraining in the workplace. New Jersey schools must provide a broad base on which that training can be built. Students must be able to read, write and compute whether in a vocational education class or non-vocational class.

Vocational programs are important options for some students. However, those students must also be required to meet the new more rigorous standards of the High School Proficiency Test (HSPT) and the core graduation requirements which provide a broad foundation for all students.

Vocational education programs should be designed to prepare students for entry into jobs for which they have been trained. As a consequence of devoting instructional time and resources to vocational education programs, students must be assured that their education will result in employment in jobs for which they were trained. Therefore, the content of vocational education programs must be sensitive to job market requirements."

METHODOLOGY

The New Jersey Department of Education began a major initiative to study the future structure and delivery of secondary vocational-technical education in

July of 1987. A panel of national and state leaders in business, industry, labor and education was appointed by Commissioner of Education, Dr. Saul Cooperman, to conduct this study.

The initial meetings of the Panel on Secondary Vocational Education were held during November of 1987. At that time, testimony on the role of vocational education was heard from 115 people and written testimony and additional correspondence regarding vocational education was received from 152 people.

Subsequent meetings were held to gather additional information. Speakers at these meetings represented the broad spectrum of the education community. Specific information was collected on the mission of vocational education, the State Plan for Vocational Education, the rationale for each delivery system, demographics affecting education, enrollment figures, funding formulas, occupational trends in New Jersey, student placement and follow-up, the high school proficiency test and teacher certification.

In June of 1988, the panel met to identify the issues which would be included in the recommendations and a steering committee was formed to outline the report. Individual recommendations were written and submitted to the steering committee over the summer.

Final meetings focused on discussions of the recommendations and the development of the final document.

The panel, as it was charged, has focused on secondary vocational-technical education. However, vocational-technical education should be part of a comprehensive system which includes not only grades K-14 but apprenticeship programs, adult education and the whole spectrum of job-training programs. The panel recommends that any planning by the State Department of Education should consider the affect on all parts of the vocational-technical education system.

In order to undertake such planning, the Department of Education should have a sound research base built on an evaluation of all vocational-technical programs. The panel found that a full review of the existing delivery systems, which is the start for planning of any future system, was hampered by the lack of objective, comprehensive data on the effectiveness of the existing systems.

In addition to the goals and principles for vocational education established by the State Board, the panel identified four concepts which should govern restructuring of the system.

GOVERNING CONCEPTS

Mandate for Excellence. The mandate for the vocational-technical program is considerably different from the mandate for the academic program. Whereas the latter is essentially measured by its ability to impart basic educational skills, the vocational-technical program has the added mandate to teach occupationally specific skills and work behavior skills. Planning for the vocational programs of the future must be done with an awareness of this

three-part mission: basic educational skills, occupationally specific skills, and work behavior skills. The measure of excellence for vocational-technical education, therefore, must focus on the degree to which its graduates have competence in all three areas.

There is no question that the graduate of a vocational-technical program should achieve proficiency in basic academic skills. Today's and tomorrow's jobs are requiring increasingly higher levels of reading and computation skills. It is unfair to handicap our vocational-technical graduates by providing them with something less than a full basic educational skills program. It is equally unfair to the employer who has a right to expect a competent worker. If America is to maintain its leadership in the world's economy, and for New Jersey to continue its economic expansion, we cannot settle for less than fully proficient graduates.

Employers As Well As Students Are Clients of the Secondary Vocational Education System. An effective range of relationships, communication, consultation, and partnerships with the private sector is an essential component if the vocational system is to achieve excellence. Vocational-technical education should match the skills of its students with the needs of employers. If students are unprepared or if the employers are generally dissatisfied with the product of the education system, the system has failed.

One caveat is essential here. Placement of graduates in jobs is not the sole measure of the system's success. Vocational-technical education should provide a base for occupational flexibility. In the occupational training part of the system's curriculum, it may only be necessary to provide the fundamentals of the occupation being studied, and to ensure that all occupational areas being studied are relevant to the local economy. Unlike Job Training Partnership Act programs, the system of secondary vocational-technical education is a first chance system. High school graduation should not be viewed as the completion of vocational-technical education. Students should be encouraged to prepare for a lifetime of learning.

There is a Need for Coordination and Cooperation in Planning at Both the State and Local Levels. The planning process for vocational-technical education should not be limited to employers and the secondary vocational-technical education system. The employer is likely to want to deal with other occupational training entities in the community: the community college, proprietary schools, Job Training Partnership Act agency, organized labor, and others. And so it seems self-evident that local planning, to be effective, requires collaboration among all these groups.

Local vocational-technical education planners must communicate with and have a sense of what is happening in their labor market as it pertains to new and emerging occupational opportunities. These planners need to collaborate with new companies as early as possible to assure that graduates of an outpatient training system will have the skills necessary to participate in new high technology occupations.

The Secondary Vocational-Technical Education System, and Any Proposed Changes to it, Must Ultimately be Evaluated in Terms of its Impact on the Individual Student's Future Relationship to the Job Market. In discussing

changes to systems and institutions, it is most important not to lose sight of certain goals. Students must:

- Achieve a level of competence in academic subjects high enough to pass the HSPT;
- Be provided with a solid grounding in the fundamentals of a job market-relevant occupational area; and,
- Be fully exposed to the behaviors and attitudes necessary to enter and advance in the world of work, to continue training beyond high school and to adapt to a changing job market.

NEW JERSEY'S DELIVERY SYSTEM

CURRENT DELIVERY SYSTEM - AN OVERVIEW

The New Jersey State Department of Education, Division of Vocational Education, describes vocational-technical education in New Jersey as comprised of programs, services and activities to assist individuals in gaining skills, knowledge, and attitudes for employment in productive work ("Fact Sheet," 1987). Experiences within the public vocational-technical education system take place at all levels of the continuum of public education beginning with kindergarten and continuing through adult education.

Occupationally specific training is available on the secondary level to prepare students for more than 1,000 specific job titles. These occupational areas are: Agriculture/Agribusiness Education, Business Education, Health Occupations Education, Home Economics Related Occupations, Marketing Education, Technical Education and Trade and Industrial Education. Work and training opportunities are provided also through cooperative vocational education and apprenticeship programs. In FY 1985, for example, 12,000 students participated in cooperative education programs (New Jersey Department of Education, 1987).

Among New Jersey's 12th grade students in the 1985-86 school year, 27,800 students (34%) completed employment preparation programs. In addition 47.2% of all students took at least one vocational education course (New Jersey Department of Education, 1987).

On the secondary level, New Jersey's vocational-technical education delivery system consists of four component parts each fulfilling a need and each providing a scope of educational experiences consistent with the overall mission for vocational-technical education. Vocational-technical education programs are offered in four settings including programs in 300 comprehensive high schools; 18 local area vocational school districts; and, 20 county vocational school districts which are either shared-time, full-time or both.

The panel has studied each of the four secondary delivery systems. Each of the systems has its advantages and disadvantages and each can be part of a future delivery system. The choice of a delivery system is, and should be, a decision made at the local level provided that the system chosen can meet the goals of the State Board for vocational-technical education and demonstrate excellence in the delivery of vocational-technical education. The panel members reviewed each of the four systems of delivery and found they all have value in providing vocational-technical education.

COUNTY VOCATIONAL SCHOOL DISTRICTS (full-time and shared-time)

The County Vocational School Districts are the principal deliverers of industrial and technical education in New Jersey. Utilizing funds dispersed by the Vocational Education Act of 1963; the Education Amendments 1976, P.L. 94-482; and the Carl D. Perkins Act 1984, P.L. 98-524, the County Vocational

School Districts were able to construct facilities and offer programs that would provide students with comprehensive vocational-technical instruction on a shared-time as well as a full-time basis.

The twenty County Vocational School Districts (Hunterdon County does not have one) vary in both size and complexity. For example, Cumberland County has a single shared-time facility while Bergen, a large county district, maintains a full-time center, several shared-time satellites, and two special needs centers.

Several of the other large county districts - Burlington, Camden, and Middlesex - offer programs on a full-time basis. In these counties, students generally attend a vocational-technical school from grade 9 to grade 12. Other districts such as Mercer, Gloucester, and Salem offer programs on a shared-time basis, generally in grades 11 and 12. Shared-time students receive vocational-technical training for one-half the school day and spend the remainder of the school day in their home high school taking academic courses.

The county schools, as a deliverer of vocational-technical education, have the advantage that vocational-technical education is the focus of the institution. The schools have their own Boards of Education, independent financing, and no competition with other educational divisions or departments. Program costs are spread throughout the county and are not the responsibility of a single school or community.

The full-time vocational-technical schools provide an opportunity for pre-employment training in a wide variety of skilled trades and technical occupations. The emphasis of county schools is on vocational-technical education in the trade and industrial programs. (75% of the 1985 enrollments in these schools were in this program area). The county schools appear to be well suited to deliver trade and industrial education. At the same time the State mandated academic subjects required for a high school diploma are provided, and the coordination of remedial and compensatory programs is relatively easy.

County schools face certain problems. In some areas pupils have to travel long distances and travel arrangements are often complicated. In addition, students may experience a loss of their sense of community and a severing of previous social ties. Coordination problems exist related to schedules, school calendars, financing, and remediation activities, and transportation problems are magnified, particularly if there are wide differences in travel distances and complicated bus transportation patterns. Instructional time is lost while students travel from the comprehensive school to the shared-time facility.

On the other hand, the shared-time vocational schools pupils retain a sense of community and identification with the home school while expanding their social contacts and experience, but they may also experience divided loyalties and responsibilities.

COMPREHENSIVE HIGH SCHOOL DISTRICT

The comprehensive high schools provide students with a broad array of academic, pre-vocational, vocational courses and related services in a single setting. By definition, the scope of the curriculum is comprehensive enough to accommodate all students in meeting high school graduation requirements, addressing remedial and compensatory needs and exploring future career areas, including further schooling. Because they offer a wide variety of concentrations and courses, the comprehensive high school may not offer the high-cost, low-demand occupational programs desired by some students.

The comprehensive school is often too small to provide in-depth training in a variety of occupations. As a result, industrial arts is common in the comprehensive high school and sometimes is used as a substitute for vocational-technical preparation and becomes neither good industrial arts nor good vocational-technical education. Because vocational-technical education programs are expensive they may be slighted, or even eliminated, in this setting if the local Board of Education has to make choices due to limited financial resources.

Students remaining in their home community have the advantage of a strong sense of community belonging, and a maintaining of relationships developed during elementary and middle school. Furthermore, the comprehensive high schools are the primary provider of business and office occupations vocational-technical training.

LOCAL AREA VOCATIONAL SCHOOL DISTRICTS

Local Area Vocational School Districts (LAVSD) are comprehensive high school districts that serve vocational-technical students by providing access to contemporary shops and machinery. LAVSDs, must comply with the Administrative Code that prescribes program standards for comprehensive high school districts as well as the additional requirements for the local area vocational school designation. These additional requirements must be met in order for a district to be eligible to receive categorical aid. Services must be provided for the handicapped, disadvantaged and limited English speaking students; student organizations must exist for all trade areas; local advisory committees must exist for all vocational areas, and the district must have the services of a full time job placement coordinator or the equivalent. As a result, courses may be offered because of code requirements rather than student need or interest.

This method of vocational-technical education delivery has the same advantages as a comprehensive high school.

CONCLUSIONS

One of the goals of the planning process should be to build on the advantages of each system and eliminate the disadvantages. The recommendations of the panel which follow suggest means of improving the vocational-technical

education system and provide a standard for evaluating the vocational-technical programs. Other types of delivery systems exist such as postsecondary schools, private schools, adult schools and the Job Training Partnership Act (JTPA). However, while these other programs are not described here they were reviewed and were considered when developing the following recommendations.

BASIC ELEMENTS OF A FUTURE DELIVERY SYSTEM

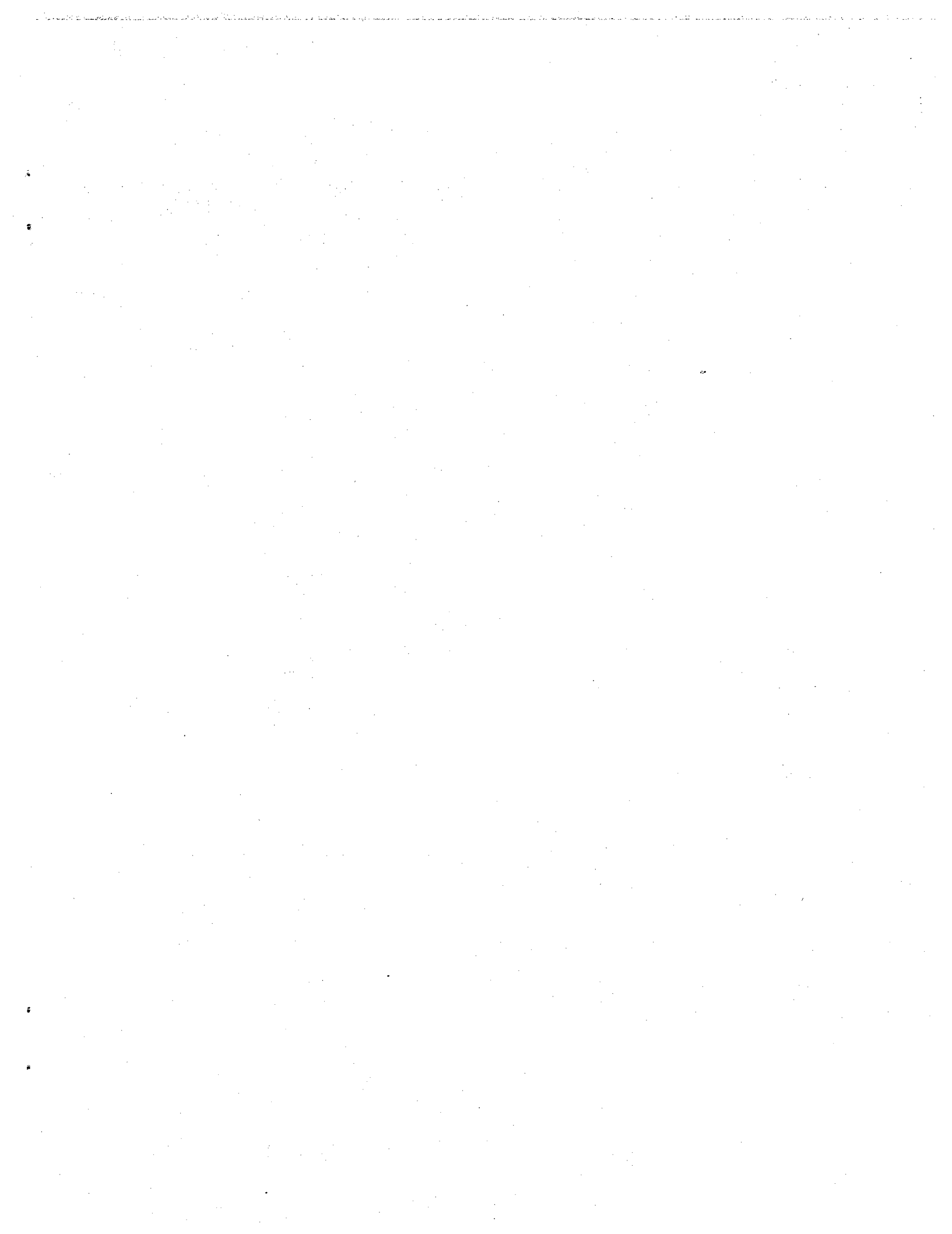
After listening to public testimony and a careful review of data on educational, demographic, and labor trends, it was concluded that there is no empirical data that would indicate that one delivery system is superior to another. Each system has its strengths and its weaknesses. Reasonable arguments can be made in favor of the superiority of each of the systems. The question is not which delivery system is "best" but, rather, what are the characteristics of a good vocational-technical system and how can we assure that students receive the benefits of such a system.

The panel concluded that a good vocational-technical system should be part of a broad-based educational system and include the following elements:

- Equitable funding
- Accountability
- Competency-based curriculum
- Adequately certified teachers
- Access for all students
- Articulation with other systems
- Close ties and effective cooperation with business, industry and labor
- Good public and community relations
- Opportunities for continuing education
- Effective placement services and career counseling

In addition, a good vocational-technical system should be flexible, cost effective, founded on a sound research base, and have effective leadership.

The recommendations which follow are concepts which we believe should be part of a future delivery system for vocational-technical education.



RECOMMENDATIONS

This section presents recommendations which, if implemented, would serve to create a new framework for a system of vocational-technical education designed for the twenty-first century. The recommendations flow from the governing concepts discussed previously and will address both goals for vocational-technical education as defined by the New Jersey Board of Education.

Vocational-Technical Education as a Part of a Broad-based System

Enrollment in vocational-technical education programs usually comes in the latter part of a student's secondary education. Since, the secondary vocational system cannot operate in a vacuum, it is important that planning for an adequate vocational-technical structure be comprehensive. Therefore, the panel recommends that:

1. The Division of Vocational Education (DVE) should develop a model of articulation for career awareness and occupational training which would include:
 - a. the establishment of a comprehensive elementary and middle school continuum to help students gain an understanding of occupations and training opportunities; specifically the DVE should promote and provide funding for the inclusion of courses in the curriculum such as Technology for Children, Introduction to Vocations, and Technology Education.
 - b. provision of experiences in the schools through industrial arts/technology education and home economics so that students can explore occupations first hand; and,
 - c. occupational skills training.
2. The Commissioner of Education and the Chancellor of Higher Education should meet and, with their staffs, develop an agreement for articulation between the secondary and postsecondary school systems with the goal of establishing a technical-preparation (tech-prep) program. In addition, secondary schools should be encouraged to develop tech-prep programs in cooperation with postsecondary educational institutions. The tech-prep program should integrate secondary and postsecondary instruction in a closely coordinated curriculum and provide students with access to college personnel and facilities when appropriate. Students should start with a solid base of applied science, math, literacy courses and technical programs. The high school portion of the career program will be intentionally preparatory in nature, and build around career clusters to help students develop a broad-based competence in a career field. The postsecondary portion of the program would allow students to achieve a maximum level of competence in their chosen field.

3. The Department of Education should offer incentives for collaboration among planning bodies at the local level so that they maximize all resources within each labor market. The Department of Education should also offer financial assistance to offset the staff costs associated with the development of a local collaborative plan.
4. The State Department of Education should work with other agencies under the auspices of the State Commission on Employment and Training to coordinate job training programs.

Funding and Use of Resources

The present level and method of funding is inadequate and does not encourage the development of vocational-technical programs that respond to the needs of the labor market. Aid distribution methods are not directly related to the actual costs of programs or to the programs' merit. Funding should be based on an equitable distribution formula that provides basic equalization aid statewide and an addition that recognizes the extra costs of providing instruction and training in an approved vocational-technical program. Funding should also be used as a tool to direct vocational-technical programs towards meeting labor market needs. Therefore, the panel recommends that:

1. The state equalization aid per student that is presently provided to all districts should continue to be the basic funding for all vocational-technical programs regardless of the delivery system. In addition, vocational-technical programs approved by the New Jersey Department of Education should be entitled to "excess cost" funding by program area.

It should be recognized that vocational-technical programs, because of their need for costly equipment and facilities are inherently more expensive to operate than traditional academic programs. The state should help to fund these excess costs. Excess cost funds should only be available for programs which: a) train students in areas needed by employers; b) are cost effective; c) have met enrollment standards set by the Department of Education, and, d) are not unnecessary duplication of programs.

2. Funding should be made available for regional programs which would provide training in occupational areas, particularly high technology and other programs which have high equipment and training costs or have high needs in terms of new workers.
3. Compensatory, remedial, and basic skills funding should be made available to all districts to assure equal access to vocational-technical programs.
4. Capital construction funds should be made available for construction and remodeling of classroom and laboratory facilities to be utilized for programs addressing new and emerging technologies as well as the changing job market.

5. To avoid unnecessary duplication of programs and to maximize resources, the Department of Education should assure compliance with the Carl Perkins Act and the Job Partnership Training Act, in particular, by following the directives in those acts that the state and local vocational-technical plans be submitted to and reviewed by the Private Industry Councils.

Accountability

Schools must be accountable for student outcomes and vocational-technical students must meet the same standards required of all students, including the passing of the high school proficiency test and the graduation requirements. In addition, vocational-technical students must meet the core proficiencies for their occupational areas. Therefore, the panel recommends that:

1. The Department of Education should develop a set of expectations for vocational-technical education students which will be used to evaluate vocational-technical programs. Students should:
 - a. Demonstrate mastery of basic skills by passing the high school proficiency test.
 - b. Acquire a comprehensive academic background by meeting the high school graduation requirements.
 - c. Demonstrate mastery of occupational and employability skills by passing tests of core proficiencies and meeting any licensure requirements for their chosen occupations.
2. In order to measure the success of schools in meeting these expectations, the Department of Education should:
 - a. Require school districts to test competence in core proficiencies. The Department of Education should develop these tests in cooperation with technicians presently in the field.
 - b. Establish a minimum placement standard and assist school districts to revise programs which do not meet those standards. To carry out this responsibility it is necessary for the Department of Education to establish a program for gathering accurate data on job placement. Placement rates should include all related placements such as continuing education and the military. Accurate follow-up data should be maintained at the local level. In addition, a comprehensive, accurate data system should be maintained at the state level for program planning and evaluation.
3. The power of the County Planning Council should be expanded to include the review and recommendation of new or expanded vocational-technical programs. The County Planning Council should involve employers through collaboration with the Private Industry Councils.

4. Employers should be actively involved in the evaluation of vocational-technical programs through advisory committees in all vocational-technical areas. The views of employers are needed to determine if vocational-technical programs are successful in training students in occupational and employability skills.

Curriculum

A good vocational-technical curriculum should consist of a sequential and competency-based set of learning experiences that contribute to an individual's, academic and higher order reasoning skills, attitudes, general employability skills, and occupationally specific skills. In order for the curriculum to integrate academic and occupational skills while building strong vocational-technical programs, the panel recommends that:

1. Core proficiencies or competency standards be developed for occupational areas by the Department of Education with the assistance of technicians in the field. Such standards should be developed with the advice of trade, industrial and labor organizations and should include tests of both content and application. Employability skills should be included in these competencies. A certificate of competency for core proficiencies should be available to employers as part of a student's academic record.
2. The Department of Education should develop curriculum and course models which integrate academic and vocational skills with the goal of meeting the graduation requirements in the vocational-technical program. Vocational-technical courses which may meet the high school graduation requirements should compare in content and rigor with the traditional academic courses in mathematics, English, history and science. We believe it is possible to design courses which will teach these subjects, all or in part, in a vocational setting and that an integration of the vocational-technical and academic subjects is important, both as an effective teaching tool and as an efficient use of the student's time.
3. The panel members do not believe that the current academic calendar provides students in vocational-technical programs (or in other programs) adequate instruction time. The panel recommends that to provide adequate instructional time for all educational programs, the Department of Education should develop a plan to increase instruction time by increasing the length of the school day or the school year or by re-evaluating the mandated graduation requirements.
4. Vocational-technical student organizations are an important part of the vocational-technical program. Classroom experiences can be enhanced by the activities of these organizations. These organizations also serve as a mechanism for the involvement of business, industry and labor in the vocational-technical program.

The Department of Education should require that local districts offer such organizations in every occupational area and support their activities by providing adequate staff in the Department of Education.

Teacher Certification

Successful education can only be accomplished in programs which have the highest quality teachers. The move within New Jersey to improve teacher certification and to obtain the most qualified teachers should also include vocational-technical teachers. Therefore, the panel recommends that:

1. Recruitment of vocational-technical teachers with documented trade experience should be improved through close contact with business, industry and labor. Work experience, formal occupational preparation and competency examinations should be considered as equivalence toward standard certification and/or a baccalaureate degree.
2. The state should fund teacher education programs in vocational-technical education in an effort to provide a pool of certified teachers for vocational-technical programs through the state colleges and university, and by establishing tuition waived assistance and support services.
3. The Department of Education should establish a program which would make contacts with business, industry and labor for the specific purpose of recruiting qualified persons for teacher training programs.
4. The Academy for the Advancement of Teaching and Management should be expanded for the purpose of imparting and enhancing vocational-technical instructional skills and methods. This should include the facilitating of the infusion of basic skills into the total vocational-technical education process and address the educational needs of the disadvantaged, special needs students, handicapped, limited English proficient and gifted and talented students.
5. In-service training opportunities for counselors, pre-vocational and vocational-technical instructors should be provided on a continuing basis so that their skills and knowledge remain current. Cross-cultural in-service training should be provided to develop awareness and understanding of ethnolinguistic minorities.
6. The Department of Education should coordinate with and recommend to the Department of Higher Education modifications to the teacher training program to include additional course requirements that will strengthen vocational-technical teachers' backgrounds and skills in basic academic subjects.

Access

New Jersey has a growing population that is at risk of continuing economic disadvantage in the midst of skills shortages and unfilled jobs. Vocational-technical education which includes the academic and theoretical knowledge and the employability skills necessary to enter and advance in the labor market can be of great value in assuring at-risk populations access to economic opportunity. At the same time it provides them with a learning environment that continually motivates them to increase their knowledge. Therefore the panel recommends that:

1. All students who want or desire a vocational-technical education program shall be guaranteed access to that option. No student should be denied the opportunity to attend a vocational-technical program because of the HSPT remediation or other requirements. An action plan should be developed to increase the involvement of underserved students. This includes the disadvantaged, men and women entering non-traditional occupations, the gifted and talented, the limited English proficient, adults in need of training and retraining, single parents and homemakers, the incarcerated, and handicapped students.
2. A plan should be developed to encourage girls to consider non-traditional programs.
3. Remediation in shared-time schools should be funded.
4. The Department of Education should create a model for counseling services which will help students to understand the value of vocational-technical education. The Department of Education should help fund the provision of such services by local school districts.

Partnership with Business and Industry

Employers, as representatives of both local and statewide job markets, must be involved in the planning, implementation and evaluation of all vocational-technical programs. Therefore, the panel recommends that:

1. Employers should be involved at the planning level in the determining of curriculum content, basic aptitudes needed, and the length of training needed to meet entry level requirements.
2. On going communication should be maintained with business, industry and labor representatives in order to upgrade content, provide knowledge of appropriate up-to-date equipment (including the possible use of the employer's equipment at the plant during hours when the equipment is not in production) and to provide information on the degree to which students successfully perform once they are placed in a job.

3. Schools should be encouraged to establish and promote the active involvement of advisory committees composed of local employers and labor representatives.
4. The Department of Education should assist local school districts by identifying strategies for the development of partnerships with local employers. Examples of cooperative arrangements are: employers providing leave time to employees to teach vocational-technical courses, use of employers' equipment to give students access to the latest technology at less cost to the school system, and the expansion of cooperative education programs.

Perception of Vocational Education

New Jersey has and will continue to experience a shortage of labor in many occupational areas. Currently over one-half of New Jersey high school students are in college preparatory programs while 85% of the available jobs in this state are in occupations which do not require a college degree. Vocational-technical education provides a means of meeting the labor shortage by bringing into the labor market groups which have not traditionally done well in trade and technical fields because they lack occupational training. However, vocational-technical education suffers from a lack of public awareness of the benefits of occupational training.

Neither parents nor prospective students realize the potential dollar income available for those who study the trade and technical fields. The strength of this kind of opportunity is unknown to many counselors and parents. It is important to improve the public perception of vocational-technical education if it is to fulfill its potential as part of an overall economic development strategy for the state. Therefore, the panel recommends that:

1. Strong public and community relations programs should be developed under the leadership of the Department of Education. The focus of these programs should be the business community and the community at large. By using a variety of media, the Department should highlight jobs available to vocational-technical students and identify and use successful vocational-technical education students to encourage students to consider vocational-technical education.
2. Efforts should be made to develop counselor and parental understanding of the value of vocational-technical education. In-service training for guidance counselors in the benefits of a vocational-technical education should be available.
3. The Department of Education should provide effective models for job placement and career counseling for all school districts. Vocational-technical education should be seen as one of the significant goals of career counseling. An effort lead by the state to encourage students to consider vocational-technical education will demonstrate its value and will have a positive effect on the public perception of vocational-technical education.

Effective placement services also play a role in convincing students and parents that vocational-technical education is a door to a successful career.

Leadership

Strong leadership is important at the state level if the recommendations in this report are to be implemented. In order to see that change occurs, the panel recommends that:

1. The New Jersey Department of Education should make a major effort to establish a curriculum laboratory/career resource center and research facility model. This model would provide opportunities for both the development of curriculum materials and leadership skills.
2. The state should make a commitment of resources in developing and maintaining strong leadership programs in vocational education through quality graduate programs.
3. The existing occupational training organizations (Department of Education, Employment and Training Commission, Higher Education, Department of Labor, etc.) should collaborate as to priorities, use of resources, information and outcomes.
4. The state should encourage and fund research programs in vocational-technical education curriculum development, program evaluation, teacher training, surveys of experiences of graduates of vocational programs, and employer satisfaction.
5. In recruiting personnel for the State Department of Education, Division of Vocational Education, a special effort should be made to find qualified educators with a commitment to vocational-technical education to provide the staff needed to implement these recommendations.
6. The State Board and the State Department of Education should provide leadership in expanding the two state goals for vocational-technical education programs so that the goals reflect the total educational experience found through vocational-technical education. Vocational-technical education has the potential to provide students with the skills they need for a lifetime of work and continuing education.

The panel looks forward to consideration of these recommendations by the Department of Education. Implementation of some of the recommendations will require an additional commitment of funds and staff. The panel believes the commitment of money to vocational-technical education is vital if the state is to provide its citizens with the skills necessary to obtain good jobs.

Implementation of most of the recommendations will not impose substantial additional costs to the system, but rather, require a renewed commitment to vocational-technical education and a dedication of existing resources to the fulfillment of the goals for vocational-technical education.

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GLOSSARY

Apprentice Training - A program of adult education requiring a written training agreement between full-time paid apprentices and their apprentice sponsors. The program includes a component of related instruction which is coordinated by an individual who holds a current vocational-technical coordinator-apprentice programs endorsement. All programs must be conducted in accordance with the National Apprenticeship Act of 1937.

At-Risk Populations - Refers to students for whom the school experience is unsatisfactory and is somehow failing to meet their needs and interests. This puts these students in a high risk category for dropping out of school.

Basic Skills - As used in this document, basic skills refers to those skills tested by the high school proficiency test (HSPT). These include reading, writing, and mathematics skills.

Competency - The level of ability (including, knowledges, skills and attitudes) to successfully perform specific tasks in order to meet a specified standard.

County Planning Council - A county based council under the direction of the county superintendent of schools whose purpose is the development of a county plan for the delivery of vocational-technical education based on identified local and regional needs.

Excess Costs - Expenditures for vocational-technical education which are above the costs for traditional academic programs.

Emerging Technologies - State-of-the-art computer, microelectronic, hydraulic, pneumatic, laser, nuclear, chemical, telecommunication and other technologies being used to enhance productivity in manufacturing, communication, transportation, agriculture, mining, energy, commercial and similar economic activity, and to improve the provision of health care.

Employability Skills - Those work maturity traits, interpersonal skills, traits and behaviors which represent the attributes and qualities most employers seek in their prospective employees and co-workers. These characteristics are generic to all occupations, both at the entry level and throughout career advancement.

Inservice - Programs that provide training designed to increase the competence of vocational educators, counselors and administrators.

Job Training Partnership Act/JTPA - An act to establish programs to prepare youth and unskilled adults for entry into the labor force and to afford job training to economically disadvantaged individuals and others facing serious barriers to employment, who are in special need of such training to obtain productive employment.

Limited English Proficient (LEP) - Individuals who were not born in the United States or whose native language is a language other than English; who come from environments where a language other than English is dominant or has a significant impact on their level of English language proficiency; and who

by reason thereof, have sufficient difficulty speaking, reading, writing or understanding the English language to deny those individuals the opportunity to learn successfully in the classroom where the language of instruction is English.

Private Industry Council (PIC) - Representatives of the private sector from each service delivery area whose responsibilities include the provision of policy guidance for activities under the job training plan in partnership with units of local government. These councils were established under the Job Training Partnership Training Act, and the majority of the members are owners or chief executives of business and non-governmental employers in the service delivery area.

Proficiency - An explicitly stated and demonstratable knowledge and/or skill used to define a desired learning outcome.

Remediation - Refers to the requirement that any student who fails one or more of the basic skills areas as measured by the high school proficiency test must be provided with corrective services and multiple opportunities to demonstrate mastery of the failed proficiencies.

Tech-Prep - Programs which begin in the junior year in high school and continue for four years in a structured and coordinated high school/college curriculum. Students are taught by high school teachers in the first two years, but also have access to college personnel and facilities when appropriate. Students start with a solid base of applied science, math, and technical programs built around career clusters and technical systems study. Intense technical specialization is developed at the college level.

Underserved Populations - Individuals who are inadequately served under vocational-technical education programs especially individuals who are disadvantaged, handicapped, men and women entering non-traditional occupations, adults in need of training and retraining, single parents and homemakers, limited English proficient, and those who are incarcerated in correctional institutions.

Vocational Career Guidance and Counseling - Those programs which pertain to the body of subject matter, related techniques and methods organized for the development of career awareness, career planning, career decision making, placement skills and knowledge and understanding of occupations, educational and labor market needs, trends, and opportunities and which assist individuals in making and implementing informed educational and occupational choices.

Vocational Student Organizations - Those organizations for individuals enrolled in vocational education programs which provide activities as integral parts of the instructional programs. Such organizations may have state and national units which complement the development of leadership and career related competencies in vocational education at the local level.

Work Behavior Skills - See Employability Skills



