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ABSTRACT

This report contains 24 case studies related to cooperative efforts between business and industry and educational agencies. Studies are arranged according to their current status, including whether they are on-going, not presently operating, or their status is uncertain. A short description is provided for each program, together with the source of information and the contact person. Abstracts of eight documents which have appeared in "Research in Education" and which pertain to school-industry relationship are also included. The abstracts are arranged by accession number and include author(s), title, source of availability, terms describing the document contents, and a brief abstract. (SB)

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CASE STUDIES OF COOPERATIVE
PROGRAMS BETWEEN SCHOOL AND INDUSTRY

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ERIC CLEARINGHOUSE
THE CENTER FOR VOCATIONAL
AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY
COLUMBUS, OHIO

CASE STUDIES OF COOPERATIVE
PROGRAMS BETWEEN SCHOOL AND INDUSTRY

Compiled by
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May 1972

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PREFACE

This compendium of case studies of cooperative programs between school and industry was developed as a result of a request from the American Association of School Administrators. Although the urgency of the request precluded an extensive search of programs and intensive followup, this paper identifies twenty-four cooperative efforts deemed representative of the programs and activities occurring between school systems and industry.

TABLE OF CONTENTS

	Page
I ON-GOING PROGRAMS	1
The Chrysler-Northwestern Program	2
North American Rockwell and the Downey World of Work Program.	4
Penn Mutual and the School District of Philadelphia	6
The Smith, Kline and French Business Experience and Education Program	7
Prudential and the Education Center for Youth	9
Leaf Brands and the Chicago Board of Education.	12
Mobile Industrial Training Units: The New Jersey Approach to Work Experience Programs.	14
T.A.T. The Training and Technology Project	16
University of Illinois I.	18
University of Illinois II	20
Career Education--Big D Style	21
Mid-Hudson Career Development and Information Center Beacon, New York	23
Knox County Schools Knoxville, Tennessee	25
Springfield Public Schools Springfield, Oregon	27
II PROGRAM STATUS UNCERTAIN	29
Cleveland's Factory-School.	30
Pacific Telephone Company: Bridging the Gap Program.	32
Industry's Study of Administration of New Haven's Public Schools	34
South Carolina's Technical Education Centers.	36
Chase Manhattan's Business Experience Training Program.	38
Stout State University.	40
Goldsmith's Department Store and the Memphis City Schools	43
III PROGRAMS NOT PRESENTLY OPERATING.	45
Wayne State University.	46
Detroit Public Schools and the Bank of the Commonwealth	48
Goodyear Tire and Rubber Company and the Akron Public Schools	50
IV ABSTRACTS	52
V BIBLIOGRAPHY.	58

INTRODUCTION

This contains 24 case studies related to cooperative efforts between business and industry and educational agencies. A short description is provided of each program, together with the source of the information and the contact person. Most of the programs have been followed up with a telephone call to determine whether they are on-going; however, the limited document development has not allowed, in some cases, confirmation of present program operational status. Thus, the group of programs classified as "Program Status Uncertain."

Many of the programs do not clearly identify a strong relationship between industry and the school. In some of the recent career education programs, this relationship may not be clearly thought through at this time.

The information for this compendium was secured from several sources:

1. "Research Projects in Progress" located in the Summer 1971, Fall 1971, and Vol. 5, No. 1 issues of Abstracts of Research in Vocational and Technical Education (ARM). This information was supplied by the Division of Vocational and Technical Education (BAVTE/USOE).
2. ERIC collection: Abstracts of Instructional Materials in Vocational and Technical Education (AIM), Abstracts of Research in Vocational and Technical Education (ARM), Research in Education (RIE), and Current Index to Journals in Education (CIJE).
3. The research library at The Center for Vocational and Technical Education.
4. The School-Based Comprehensive Career Education Model (Model I).
5. The staff of The Center for Vocational and Technical Education.
6. Telephone conversations with directors of industry and education cooperative ventures.
7. American Society for Training and Development.

ON-GOING PROGRAMS

THE CHRYSLER-NORTHWESTERN PROGRAM

Following the 1967 summer civil disturbance in Detroit, many responsible individuals in various religious groups, governmental activities, social action organizations, and private business and industry organized the New Detroit Committee to study and evaluate community problems and recommend remedial actions. Chrysler Corporation took an active part in this effort.

In addition to its involvement in "New Detroit," Chrysler Corporation approached the Detroit Board of Education and offered to undertake a program of comprehensive action aimed entirely at Northwestern High School, a predominantly Negro school located in one of the areas hardest hit by the 1967 rioting. The Chrysler proposal was carefully considered by the Board of Education and Northwestern school administrators who soon became convinced that it was completely sincere and in no sense paternalistic or a bid for publicity.

Thereafter a working arrangement was established wherein project needs were submitted by the school for Chrysler's consideration, and other offers of project assistance were submitted by Chrysler for consideration by Northwestern High School. A high degree of cooperation now exists, with the clear understanding that Chrysler Corporation does not dictate educational policy. Instead, its primary role is one of financial assistance and, where applicable, expert counsel and guidance.

The first proposal involved assistance in placement of Northwestern graduates. To meet the need, Chrysler renovated a wing of the school and established a placement office, the Chrysler Action Center, where testing and interviewing activities are conducted by Chrysler personnel. Thus, all graduating seniors are tested and interviewed for job placement either in Chrysler's Detroit locations or in available openings with other companies. The Chrysler program of assistance began in January 1968, and half of Northwestern's 1968 graduating class was placed. Vocational counseling is also offered and is perceived as a profitable experience whether or not graduates are seeking employment.

In June 1968, a special summer program was instituted in which auto shop training and language arts were offered to 94 potential dropouts who received a \$5 a day stipend while attending. Of the 94 trainees, 88 completed the special program and were offered part-time jobs the following school year with the Boron Oil Company. A total of 42 students accepted employment with Boron and received both job experience and training to upgrade their performance.

A third approach to improving education is Chrysler's "Secretary for a Day" program in which students spend a day in an actual job at Chrysler under the supervision of a Chrysler employee. The Chrysler Corporation has also established a reading clinic for adults in the neighborhood and has extended the services of the data processing center to adults during the evenings.

Furthermore, the company has provided the school with a library of paperbacks by and about blacks to encourage reading interests.

Finally, Project 75, a motivational program, is another good example of Chrysler-Northwestern cooperation. Project 75 entails grouping 75 Northwestern high School students with 25 Chrysler sponsors on the basis of a common interest and on a three-students-to-one-sponsor ratio. Each sponsor is proficient in a specific activity (e.g., bowling, sewing, ping pong, chess) so that he will be able to teach the students that particular skill. The activity allows sponsors and students to have a mutual interest in their initial contacts. The main objective of Project 75 is to develop a strong relationship between the three students and the Chrysler sponsor so that the students will feel free to talk about their goals in life, problems they may have, the world of work, or just the philosophy of life.

One of the most significant adjustments which cooperation between Northwestern and Chrysler has required is a change in scheduling. Since participants spend three hours a day on the job and four hours in the classroom, the school schedule has had to be adjusted to the job situation. This has required the services of a coordinator working with counselors to plan a school schedule compatible with the work schedule.

Inadequate transportation to the job has also created problems. One solution to such problems involved allocating school bus tickets to participants who could not afford transportation costs. Another approach involved establishing car pools which, in some cases, were provided at a small fee by retired union men.

A third area of concern, consisting of the various personal and job-related problems that arise from the work environment itself, was handled by instituting job sponsors for one to five candidates during the 90 day trainee probationary period. The sponsor's responsibility extends to assisting candidates with problems arising from any phase of their jobs--whether personal or strictly job related.

Further, the sponsor is responsible for contacting each candidate weekly throughout the probationary period and for submitting monthly progress reports on the candidates to the Chrysler-Northwestern Administrator. Additional contact with the Administrator is encouraged only when the sponsor disagrees with the candidate's treatment and has no authority to rectify the situation.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Principal
Northwestern High School
6300 Grand River
Detroit, Michigan 48208

NORTH AMERICAN ROCKWELL
AND THE
DOWNEY WORLD OF WORK PROGRAM

Present needs for trained manpower and realistic training programs caused the Downey Unified School District (Downey, California) to develop new approaches to vocational education. The resulting "World of Work" Program (WOW) is an educational system involving the total community in discovering and developing each student's talent for the work world.

The Downey Unified School District is replacing traditional practical arts departments with a new program which embodies primary industrial functions. Included are the elements of design (the creative planning procedures, products and/or services), marketing (processing data in finding, controlling and distributing designs, products and/or services), manufacturing (changing materials to make quantities of useful products), and servicing (caring for living things or maintaining products). These four elements represent the major functions of business and industry and each is dependent on one or more of the others for efficient operation. Fundamental occupational groups can be found in each category.

Currently, the Downey school district has a vocational mechanics instructional program operating according to the WOW concept. Plans are underway (1) to convert the junior High school industrial arts programs of woodworking, metalworking, crafts and drafting to industrial design, manufacturing and servicing; and (2) to change the graphic arts, metals, office occupations and electricity-electronics programs in the high schools to conform to the WOW concept. Additionally, new courses are being developed which serve as "models" of cooperative effort between the school and the local North American Rockwell Corporation in basic manufacturing processes, plastics fabrication, and structure assembly.

At the junior high school level, the WOW program began in the fall of 1968 with the opening of a Servicing Center in the industrial education department of one of the Downey junior high schools. Learning activities in the servicing Center follow three tracks: the servicing of mechanical devices (bicycles, small engines, mowers, etc.), electrical systems (wiring and repair), and buildings (cleaning, painting, and plumbing). Initially students cover all three tracks for general and exploratory learning; but as a student discovers an area for which he has demonstrated talent and interest, he is allowed to specialize and may continue in the vocational education program in the high schools.

Classroom activities for occupational exploration consist of working with bicycles and other familiar devices. Students first learn to repair and maintain this equipment and then graduate to more complex devices. The students also repair malfunctioning and broken household appliances that have been donated to the PTA Thrift Shop by parents and friends.

At the high school level, a plastics program was developed in September 1968. The purpose of the program was to improve the quality of workers hired and to reduce in-plant training requirements and turnover at North American Rockwell. One hundred students, primarily white males, participated in plastics fabrication and structure assembly instruction for five hours a week.

The realism of the World of Work Program has much to recommend it. School personnel feel that it is a highly relevant educational program and that it has provided students with more efficient and worthwhile course content. North American Rockwell has also expressed satisfaction in being involved in a program which is giving every participant a marketable skill.

Status: On-going

Source: Douglas, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Training Specialist
North American Rockwell
Space Division
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Downey, California 90241

PENN MUTUAL AND THE
SCHOOL DISTRICT OF PHILADELPHIA

Educators and business firms in Philadelphia are involved in a cooperative effort entitled "A Two Week Look at Business." The program started on a limited basis four years ago with only 36 business education students from three high schools, but the undertaking has proven so successful that both employers and school administrators are eager for expansion. The principle industries involved are banking, insurance, and utilities. The Penn Mutual Life Insurance Company is one of the 16 firms cooperating with the Philadelphia Board of Education in the program. Included among the remaining firms are Atlantic Richfield (refining), the Curtis Publishing Company, and Bell Telephone of Pennsylvania.

Ten students are typically assigned to each firm. (In the Penn Mutual phase of the program, the ten participants were female inner-city residents under 18 years of age: 60% Negro and 40% white.) Screening is performed exclusively by school personnel: teacher-coordinators examine school records and contact students who appear to be underachievers. Students usually spend six hours a day on the job, although the hours may vary. Since the project is considered to be an extension of school training, no salaries are provided. However, car fare and lunch expenses are paid by the firm so that no student will be excluded because of insufficient finances. A buddy system is in operation to provide students with a friend to whom they can go for advice and for answers to their questions. At the end of the two-week exposure to the work world, a closing ceremony with parents and school personnel in attendance is held. The total estimated company expense for the program is about \$50 per student and includes transportation costs, meals, and staff salaries.

Since the program is conducted on a voluntary basis during summer vacation, students with insufficient motivation may forego the opportunity to gain exposure to the world of work. These students must be approached on an individual basis and encouraged to participate.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW). June, 1969. 37 pp.

Contact: Personnel Director
The Penn Mutual Life Insurance Co.
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19105

THE SMITH, KLINE AND FRENCH
BUSINESS EXPERIENCE AND EDUCATION PROGRAM

The division of Vocational Education of the School District of Philadelphia operates a number of motivational school-work projects for disadvantaged students from inner-city schools. The students are offered a paid, supervised work experience in conjunction with their schooling, and counseling and supplementary tutoring and training are provided by approximately twenty participating Philadelphia firms.

The school-work projects are collectively termed the Business Experience and Education Program (BEEP). The program was actually developed at a Philadelphia bank and was an adaptation of Chase Manhattan's BET program. It was initiated in the business-industrial climate but was introduced to the Philadelphia school system so that it might be included in the schools' on-going operations.

In 1968 Smith, Kline and French Laboratories, a major producer of pharmaceuticals, became a BEEP employer. In "selling" BEEP to employers, the President of the Philadelphia Board of Education usually writes to the company president initially to obtain his cooperation; but in the case of Smith, Kline and French, the company made the first move and offered to participate in the program. Twenty young men, only two of whom are over 18 years of age, are involved in the Smith, Kline and French program. Sixteen of the youths are Negroes, two are Puerto Rican and two are white. They are drawn from two inner-city high schools where the dropout rate exceeds 40%.

Recruitment for the program is conducted by the participating schools. Both school and company conduct screening, selection, placement, and individual counseling for BEEP participants.

Teachers and work-experience supervisors are Board of Education employees and are paid by the school system; student-employee wages of at least \$1.60 an hour and salaries of company supervisors for the program are paid by the company.

Monday through Friday during the school term students attend classes in four major subjects from 8 a.m. to 2 p.m. each day; they then work three hours a day at Smith, Kline and French. During the summer program participants work full time at the company. In addition to on-the-job training, the company also brings the 20 students together for weekly conferences which include guidance and individual counseling by company supervisors, personal orientation, company information, group discussions, and field trips.

Jobs for the BEEP program were specially "created" for high school student employees since the normal high school student typically lacks the skills and experience needed for existing company positions. The jobs were carefully chosen to call only for basic skills initially, then for more skill and more involvement as education and experience progress. In effect these jobs were designed to facilitate the movement of the student employee through a necessary, and often difficult, transition period. Seventeen different job titles, including Purchasing Trainee, Printing Trainee, Apprentice Draftsman, Lab Helper, Mail and Stockroom Trainee, and Marketing Research Clerk are listed for the 20 BEEP participants-- job titles which did not exist in the employment milieu at Smith, Kline and French prior to BEEP. The training required for these positions is scheduled to take 21 months. Wages are paid by the hour.

Although no advisory committee exists for the BEEP program, one school supervisor is designated as the liaison between school and company. This supervisor is a work-experience teacher-coordinator with experience in occupational education and administration.

Company training staff provided half-day general orientation sessions for first-line supervisors involved in the program. No special training sessions are conducted for school staff but their experience in working with BEEP is considerable.

The company has experienced some difficulty in communicating its needs to school personnel but the school is attempting to respond through increasing flexibility in scheduling and other school policy matters. School supervisors are also devoting time to expediting communication and cooperation between school and company personnel involved in the program.

Too little time has elapsed since the Smith, Kline and French program began for evaluative data to be made available. However, both school and company personnel have expressed satisfaction with the program and take pride in having developed a means of aiding disadvantaged youth in finding a productive niche for themselves in society.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW). June, 1969. 37 pp.

Contact: BEEP Administrator
Smith, Kline & French Laboratories
1500 Spring Garden Street
Philadelphia, Pennsylvania 19130

PRUDENTIAL AND THE
EDUCATION CENTER FOR YOUTH

The Education Center for Youth has been called the most prestigious high school in Newark, New Jersey. Essentially it is a high school for dropouts which offers work-school experience on a "learn-and-earn" basis.

The plan for the "Center" was subsidized with \$50,000 of special state education monies. Professional help was offered by the State Education Commissioner's staff, the State Department of Labor, and the County Superintendent of Schools.

In December 1964, the school opened on a site in the downtown area of Newark. The student body consisted of 100 unemployed out-of-school youths ranging in age from 16 to 21. These candidates had been screened by the Youth Career Development Center of the New Jersey Employment Service, the Guidance Department of the New Jersey Secondary Schools, and the chief administrator of the Education Center for Youth.

Basically the Center is a special high school designed to encourage completion of secondary education by providing work-study experience for dropouts. Students are recruited through the schools and by newspaper advertising, radio, TV, and word of mouth. Outreach is also accomplished by means of close cooperation with civil rights groups and the State Employment Service as well as with regular high schools in the city. Facilities are donated by a church in the downtown Newark area adjacent to the main library and the museum; and the rooms loaned for high school study are the same rooms used by the church for Sunday School sessions. At the outset and until the regular furniture and supplies arrived, necessary equipment was provided by the participating business organizations and the Board of Education (e.g., desks, bookcases, typewriters, textbooks, and even lighting).

One hundred students participate during a normal training cycle (approximately 40% male and 60% female). The students are primarily Negro, although white and Puerto Rican students also participate. The students work and study during alternate weeks; and, while 50 students attend school, the other 50 work.

One hundred jobs are guaranteed for the students by the seven participating local businesses for the duration of the program. Participating companies and their respective job functions are as follows: Bambergers--sales clerk, wrapper, marker, and stock checker; Humble Oil and Refining Company--service station trainee (Esso); New Jersey Bell Telephone Company--telephone operator, clerk; Prudential Insurance Company of America--duplicating machine operator, messenger, clerk; Public Service Electric and Gas Company--Keypunch trainee, librarian trainee, clerk; Western Electric Company--bench machine operator, detail maker's assistant, stock chaser,

photographer trainee, keypunch trainee, engineer-drafting trainee, clerk; Westinghouse Electric Corporation--printing trainee, engineer-drafting trainee, clerk.

In some cases, the jobs offered were not available originally but were "fractured" and thus adapted to the needs of the program operation. Otherwise, the students who work as employees of the various companies receive no special treatment, nor do they replace any regular company employee. Both work and attendance records must be satisfactory. The company pays the basic starting salary; and the total expenditure for all companies is \$155,000 annually. No company is obligated to offer employment to a student after he has completed the Center program.

Like work standards, school standards are also high. Thus, the student must maintain above average attendance records. The school calendar year does not parallel the typical academic year but corresponds instead to the industrial schedule; consequently, the student studies and works throughout the summer and during other regular school vacations including Christmas and spring holidays.

The program curriculum is the same as that offered in a regular high school, e.g., English, mathematics, social studies, and business education are offered. The difference is that the courses are adapted to the needs of the Center student. Since individual differences range from perhaps a ninth grade to an incomplete twelfth grade education, each student works at his own rate of speed. Instruction is geared to individual rates of development and no time limit exists for course completion. To facilitate such individual pacing, classes are small with a maximum enrollment of ten students.

The faculty members involved in the program are experienced Newark high school teachers. The entire Center staff includes five subject-matter specialists, two part-time work-study coordinators, two full-time guidance counselors, a social worker, and a part-time nurse. Additionally, any professional services which are ordinarily available to the Newark schools are at the disposal of the Center.

The Center has operated successfully since December 21, 1964, and approximately 350 students have been enrolled. Of the total, 190 have earned their high school diplomas, 100 are still participating, and 76 have dropped out. This 60-65% retention rate compares very favorably with that of regular Newark high schools, especially when it is remembered that the Center students are already alienated from school and could be expected to produce a zero retention rate.

Of the 190 students who received high school diplomas, 121 are employed, 8 entered the military service, 15 are homemakers, 20 have undertaken college work (at least on a part-time basis), and only a handful are unemployed.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW). June, 1969. 37 pp.

Contact: Senior Community Relations
Consultant
The Prudential Insurance Co.
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Prudential Plaza
Newark 1, New Jersey 07101

LEAF BRANDS AND THE
CHICAGO BOARD OF EDUCATION

The Leaf Brands Division of W. R. Grace & Co., a candy-making organization in Chicago; Illinois, cooperates with the Chicago Board of Education, Division of Adult Basic Education, to provide a job-oriented education program for disadvantaged persons. The program was initiated in response to high turnover, the need for basic education to improve job status, and lay-offs indirectly attributed to language handicaps.

The local federal anti-poverty agency, state employment agency, and the National Alliance of Businessmen are involved in the program. Union approval was also obtained prior to the establishment of the program. Funding is divided, with 60 per cent provided by schools and 40 per cent by industry. Federal funds are used under a Manpower Administrator (MA) contract.

The Leaf Brands program involves basic education for functional and complete illiterates, English as a second language, and preparation for citizenship. It is designed for inner-city residents and is directed toward Spanish-speaking persons: thus, 25 per cent of the participants are South American immigrants, Mexican-Americans, or Puerto Ricans; 60 per cent are Negroes; and 15 per cent are white Appalachian migrants. Approximately 200 trainees, ranging in age from 20 to 40, participate in a typical 39-week training cycle. Jobs for which training is offered include packer, warehouseman, and serviceman. Participants spend an average of $7\frac{1}{2}$ hours per day on the job and $1\frac{1}{2}$ hours in the classroom. They are paid for the 9-hour working day by the company.

The program is conducted on company premises, with teachers supplied by elementary and adult basic education schools. Eight instructors are provided part-time by the school--four in basic education (communications skills, including English as a second language; basic arithmetic; etc.) and four in regular academic subjects. Five company personnel are utilized in the program. Sensitivity training is conducted for all levels of management on a continuing basis. Each trainee attends a counseling session at least once a week in which is offered counseling for psychological purposes, health problems, and academic and career planning. The counselors are regular Chicago Public School counselors who are recruited and paid by the company for this additional guidance activity.

The program is open to all employees who volunteer to participate. For some positions, the program is a requirement. Trainees are screened and selected according to job requirements and promotional training needs. Disadvantaged individuals are recruited for the program through public employment agencies, the Concentrated Employment Program (CEP), religious organizations, social and fraternal groups, and the Urban Progress Center

(a federally-sponsored community clearing house, located in 125 major cities, which conducts training, administers exams, and provides other job preparation).

Cooperation between Leaf Brands and the Chicago schools has resulted in certain changes in school teaching methods, particularly with respect to the use of industrial mathematics in regular math programs. Special school problems encountered have been attendance and conflicting work schedules. Through group guidance and immediate follow-up, the attendance problem was improved; conflicting work schedules were eased by rescheduling work. Problems encountered by participants, e.g., keeping regular hours and working toward long-term goals, were also dealt with through group guidance programs. Finally, flexibility of school scheduling was required to accommodate plant needs.

Since its initiation in August 1968, the Leaf Brands program has reportedly reduced absenteeism and employee turnover. Participating employees also seem to be more interested in their work. The company considers the program to be relatively inexpensive since the lower rate of turnover, improved product quality, and lower insurance rates (made possible by lower accident rates) offset the initial outlay of funds.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Training Director
Leaf Brands Company
1155 North Cicero
Chicago, Illinois 60565

MOBILE INDUSTRIAL TRAINING UNITS:
THE NEW JERSEY APPROACH TO WORK EXPERIENCE PROGRAMS

The New Jersey State Department of Education has developed a unique approach to providing work experience for children from seasonal and migrant families. Every summer a substantial number of such families come to New Jersey to seek summer work on farms; and, due to the large number of children in these families (as many as 3600), a mobile training program was initiated to provide them with knowledge of an exposure to the world of work.

Three mobile approaches exist. In addition to the industrial approach herein reported (i.e., exposure to the employment process and to manufacturing processes), a business education learning lab was established to familiarize students with the operations, functions, and duties involved in the use of various business machines. Skills are not taught. Rather students are conditioned to become confident in the use of office machines. A third approach, the multi-occupational training unit, is planned which will provide training for supermarket checkers and for automotive tune-up specialists two occupations which are currently in demand.

The mobile units operate year round, serving five migrant education centers and ten school districts within the state. The success of the mobile unit approach depends on the close cooperation of industry, business, local school districts, and the State Department of Education.

All instructional techniques are relevant to the total operation. Therefore, the student sees not only the relationship between training lessons and immediate program objectives but also the connection between training and the ultimate objective of getting and holding a job.

Program content for the industrial approach is aimed at teaching industrial concepts and includes everything in the employment process from the application form to job placement. Emphasis is primarily on development of the attitudes, values, skills, and habits necessary for obtaining a job and advancing in the position.

As a preliminary step, the employment application is explained. Next, telephone techniques for scheduling employment interviews are practiced with a "prospective employer." Representatives on loan from local industry conduct short employment interviews which are video-taped for diagnostic purposes. A critique by the interviewer provides the student with a professional assessment of his performance in the interview process. Finally, each "applicant" is hired and instructed to report to work the following day. Punctuality and attendance are emphasized and the student is instructed in the use of the time clock and its function in the determination of pay.

The work component in this work-experience program is extremely realistic. Raw materials are obtained from various industries within the area and the work closely parallels that of industry. Materials are collected by a truck which accompanies the unit, and the technique is used to familiarize students with processes of shipping and receiving, loading and unloading, and also procedures required for filling out shipping orders.

When raw materials are received, goods are stacked and inventoried in preparation for the assembly process. Goods are fabricated by means of a 20' conveyor belt which is equipped with variable speeds. A quality control station monitors production and traces defects revealed in the control process. Completed quality products move to bulk packaging, the conveyor belt is reversed, and the products are loaded on the truck for shipment.

The primary emphases in the production process are teamwork, efficiency, accuracy, and human relations. The production process and the skills are important, but secondary. Safety is also stressed throughout the operation. And finally, exposure is maximized by rotating students on each job.

Information supplemental to the production process is provided in two areas: payroll procedure and consumer knowledge. Areas pertinent to the payroll procedure include computation of wages and hours, piecework computation and related mathematics. The math program, conducted on an experimental basis in cooperation with Olivetti Underwood, consists of using calculators to solve problems which arise as a result of the industrial process. Paychecks are computed and students receive non-negotiable checks. Banking and budgeting are explored in an attempt to aid the student in handling his personal finances, and a local bank representative is invited to instruct students in cashing checks and opening bank accounts.

The mobile training program has been in operation since summer 1968. And, although no formal data have been reported, ten students have been successfully placed on assembly lines in two of the cooperating companies.

The implications of the mobile approach to training are many. Conceivably, the approach could be applied to (1) working with mentally retarded, physically handicapped, emotionally disturbed and slow-learning students; (2) adult education for rural poor, urban disadvantaged, migrants or seasonal workers; (3) evaluation stations for individuals entering sheltered workshops; and (4) pre-vocational orientation stations at industrial sites.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW). June, 1969. 37 pp.

Contact: Administrative Assistant
Vocational Programs for Migrant and Seasonal Families
New Jersey State Department of Education
Trenton, New Jersey

T A T:
THE TRAINING AND TECHNOLOGY PROJECT

The Industrial Skill and Technical Training Program of the Training and Technology (TAT) Project at Oak Ridge, Tennessee is a 52-week program providing advanced level industrial skills and technical training for the underemployed and unemployed. TAT has the dual purpose of providing fuller utilization of human resources while also filling some of the critical manpower needs of modern industry. It is based on the concept that excess training capacity of industry can be used in combination with resources of education and government to expand and expedite manpower training.

The program is being conducted by Union Carbide Corporation-Nuclear Division, operating contractor of the U. S. Atomic Energy Commission (AEC); the University of Tennessee; and Oak Ridge Associated Universities (ORAU) in cooperation with the Tennessee Department of Employment Security, the Tennessee Division of Vocational-Technical Education, and organized labor. It is supported by funds from the U. S. Department of Labor and the Atomic Energy Commission.

Training occurs in six occupational areas: physical testing technology, mechanical engineering technology, general mechanics, machining, welding (2 sections of 26 weeks each), and electronic technology. The program has a total of 190 twelve-month "slots" or training positions, the average training time being six or seven months. As trainees are graduated to jobs, new trainees are brought in to fill the vacant slots. In this way over 300 persons are trained during the year. Approximately 41% of the trainee population is comprised of minority group members (mostly Negroes, a few Cherokee Indians). Seventy-five percent of the population is within the 18-25 age group; the remaining 25% is aged 25 and over.

Participants are paid weekly, subject to reduction for absenteeism, by MDTA (Manpower Development and Training Act) funds. An average of three hours per day is spent in classroom instruction and the remaining five hours are spent in shop and laboratory instruction. Individual counseling for program participants is provided on a regular basis and includes both academic and personal counseling. The company staff is comprised of 60 personnel (most of whom are part-time), and the school staff consists of 12 ORAU personnel.

A total of 524 trainees (85% of those who began the program) completed the first phase of TAT, which operated from June, 1966 to July, 1968. Of those who have completed the program and are employed by the company, all are on the job for which they were trained. Turnover is approximately the same as among regular employees, and trainee satisfaction is reportedly high. The program is considered to be

relatively inexpensive since use is made of existing facilities and equipment.

As a result of the success of the TAT program, the Department of Labor and the Atomic Energy Commission are jointly supporting a new program, TAT-Phase II. Under this program, AEC and the Department of Labor, using MDTA funds, jointly support a program to find, prepare, and train local disadvantaged people to qualify them for entry-level employment. Educationally deprived trainees are identified through a recruitment intake network of cooperative linkages with the Neighborhood Youth Corps, the Bureau of Work Training Programs, and other agencies. Trainees participate in special part-time job-preparatory programs which offer instruction in mathematics, communications, and "trade science." About 200 trainees per year from these preparatory programs, along with trainees recruited elsewhere, receive full-fledged occupational training for six to twelve months in the regular TAT-Phase II program. Trainees are then placed on industrial jobs where they receive further specialized training.

Status: On-going

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Oak Ridge Associated Universities
Badger Avenue
P. O. Box 117
Oak Ridge, Tennessee 37830

UNIVERSITY OF ILLINOIS I

To determine how, when and where teachers of agricultural occupations keep current their knowledge and skills in non-farm agricultural occupations, the teacher education staff at the University of Illinois designed a four-week experimental cooperative education program (Mannebach, 1970) involving structured, on-the-job, occupational experiences in agribusiness plus related instruction in the classroom for teachers of agricultural occupations.

The teachers enrolled in the program spent Tuesday, Wednesday, Thursday, and Friday mornings participating in structured occupational experiences in agricultural firms. On these same days, the teachers received two hours of related classroom instruction at the University. On Saturdays and Mondays, the teachers obtained a variety of unstructured experiences of their own choice in agricultural firms in their local communities.

The informal experiences served to supplement the structured occupational experiences and provided experiences in other agricultural firms. The structured occupational experiences were planned to provide teachers with on-the-job training in agricultural firms and to help them become informed realistically regarding the factors involved in the movement of products from agricultural firms to customers. The structured occupational experiences in the agricultural firms centered on completing selected activities and finding answers to prepared questions.

Instruction in the classroom during the four-week period was focused on analyzing the experiences of the teachers, intellectualizing these experiences in terms of educational objectives, and planning units of instruction for use in actual teaching situations. Primary emphasis in the classroom consisted of resolving how the teachers' experiences could be reflected most effectively in teaching plans and in teaching.

Evidence collected from the cooperating agricultural businessmen and from the high school and junior college teachers enrolled provided insight into the strengths and weaknesses of the four-week program. The evidence indicated that the teachers and the businessmen liked the concept of using structured occupational experiences. The teachers felt that such experiences, especially if discussed in the classroom, were very beneficial in planning and organizing instruction for teaching. The teachers also like the general method and approach used for obtaining important technical and occupational experiences. They especially liked the structured questions which were designed to guide them in asking about the organization, management, and operation of the agricultural firms, and they were pleased with the worksheets used to gather operational information about firms.

Most of the agricultural businessmen felt that the teachers should have spent more time with the firms. However, the teachers preferred the half-day spent in the agricultural firm and the two-hour period spent in the classroom. In future years the junior college teachers wanted to obtain their experiences in the same type of firm, while high school teachers were

more willing to gain a wider range of experiences in different types of agricultural firms.

Status: Ongoing

Source: Beasley, Gary, and Smiley, James. Occupational Experience for Vocational Education Teachers: A Handbook for Teacher Educators. Information Series 40. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1971. (VT 013 044-- see RIE, June 1972)

Contact: College of Agriculture
University of Illinois
Urbana, Illinois

UNIVERSITY OF ILLINOIS II

Williams and Coil (1970) describe a one-week intensified workshop that was conducted by the International Harvester Company at their Hickory Hill Service Training Center. The program was designed for teachers of agricultural mechanics and involved cooperative planning by agricultural occupations consultant from the Board of Vocational Education and Rehabilitation, teacher educators from the Agricultural Education Division at the University of Illinois, International Harvester personnel, and junior college instructors.

Workshop participants were taught by experienced instructors at the Hickory Hill Service Training Center and received instruction concerning the service and repair of new parts currently used on agricultural equipment. The concept of learning-by-doing was implemented through small laboratory classes of approximately five students per instructor and utilized student training teams. Teaching aids such as cut-away parts and complete parts and equipment were used extensively. Part of the instruction time was set aside for discussing and demonstrating teaching techniques that the participants might find useful in their non-teaching situations.

The program provides the opportunity for teachers to receive instruction and training from experienced, knowledgeable instructors who have had well-rounded service experience and specialized training in their teaching area. To insure that participants receive personal attention, laboratory classes never consist of more than five or six students per instructor.

Probably the weakest part of the program is its brevity. More knowledge and skills can be provided through more and extended occupational experiences for vocational teachers.

Agricultural industries have excellent facilities and competent instructors who train their own employees. Through joint planning by education and industry, specialized training programs which will meet the needs of in-service teachers can be scheduled. These cooperative efforts by educators and industry personnel to update the occupational competency of agricultural teachers hopefully will result in students being better trained in this area of vocational education.

Status: Ongoing (Based on need)

Source: Beasley, Gary, and Smiley, James. Occupational Experience for Vocational Education Teachers: A Handbook for Teacher Educators. Information Series 40. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1971. (VT 013 044-- see RIE, June 1972)

Contact: College of Agriculture
University of Illinois
Urbana, Illinois

CAREER EDUCATION--BIG D STYLE

The setting is Skyline Center, the Dallas Independent School District's latest and most far-reaching innovative project. The students are part of a group taking advantage of new style career education--education with an eye to the future but with both feet on the ground.

It all began in 1965 with a commitment by the Dallas Board of Education to develop a large, comprehensively equipped vocational education facility to serve students from all areas of the district. Careful initial planning, community involvement beyond the ordinary, and an excellent public information program resulted in the passage of a school bond issue in 1967 which launched Skyline on its way.

The \$21,500,000 facility that houses Skyline Center encompasses almost 14 acres under roof and is a product of study and planning by varying combinations of teachers, administrators, representatives from industry, and consultants from the Texas Education Agency which represents the State Board of Education.

RCA's role at Skyline Center, embodying a new concept in performance contracting, began in March 1971 with Phase I, which provided for both recruiting and counseling of students for admission to Skyline Career Development Center. Two other "knowledge industry" companies, Philco-Ford Corporation and Thiokol Chemical Corporation, also participated in this phase.

The success of the venture can be demonstrated by the fact that more than 4,000 students applied for the 2,500 vacancies.

Phase II's performance contract involved only RCA and was concerned with further development of career programs by the writing of curriculums, the development of behavioral objectives for the various courses, and the recruitment of qualified teaching personnel.

Skyline is presently in Phase III with RCA. This phase includes the implementation of curriculums, the testing and measurement of performance of students, the development of second-year curriculums, and the management of several career programs.

Although the cost per student is somewhat higher overall when working with the knowledge industry, it is becoming more and more obvious that partnership with industry is necessary if curriculums in career areas are to be developed. School districts as we know them today do not have readily available the personnel and fiscal resources to accomplish these goals.

The Dallas Independent School District's commitment to career education and individualization of instruction has been reflected in several ways at Skyline. A team of more than 100 curriculum writers spent most of the summer of 1971 in intense sessions to develop a viable course of study for over two dozen career clusters.

For each cluster behavioral objectives were developed to serve as a guide for the course and to provide basis for evaluation. A student progresses through his individualized course of study by completing tasks (behavioral objectives) of varying length and difficulty. He is evaluated on his degree of competency in completing these and not with the traditional A, B, C's of grading.

The emergence of special curriculums brought with it two special evaluation teams. The school district has provided an eight member research and evaluation team stationed at Skyline full time. Their role is to provide an ongoing, day-by-day evaluation of the effectiveness of Skyline's special career curriculum.

As an adjunct to this team and as part of the performance contract with RCA, the District also has employed an outside auditor, Educational Testing Service, Princeton, New Jersey, as a third party in determining performance of students.

Because Skyline was planned as a district-wide educational facility, it is considered an extension of all Dallas high schools, and students from any part of the city may apply for admission. Students have 28 career clusters from which to choose. These include advanced electronics, advanced science, performing arts, plastics, graphics, social sciences, horticulture, photography, art, aeronautics, and others. Classes are offered in three-hour blocks of time daily.

Students may enter Skyline on a full-time basis to pursue a career course for part of the day and take their regular high school courses during the remainder of their time in their home school. Transportation is furnished for students who wish to attend Skyline either on a full-time or part-time basis. This is accomplished by a shuttle bus service to each of the high schools in the district.

The Skyline concept of combining career and academic education, of providing the student with more options than ever before, of recruiting and utilizing community assistance, of commitment by the school administration for facilities and expenses beyond the ordinary, is beginning to jell.

Students are beginning to be excited, and more persons are pledging their support. It is beginning to be understood and to be accepted by many that the work done at Skyline is the new trend in career education, a trend that must continue if students are to be prepared to live successfully in our fast moving, rapidly expanding, technologically oriented world.

Status: Ongoing

Source: Stamps, B. J. "Career Education--Big D Style", American Vocational Journal, (March, 1972), pp. 42-44.

Contact: B. J. Stamps

Deputy Assistant Superintendent for Skyline Center
Dallas, Texas

MID-HUDSON CAREER DEVELOPMENT AND INFORMATION CENTER
BEACON, NEW YORK

The career education program is being carried out in all grades from kindergarten through grade twelve.

The main goals and objectives of the program include: providing a general orientation to the world of work beginning with the earliest elementary grades; the development of a curriculum that will enhance the vocational maturation of students (K-6); and the modification of teacher attitudes. Beyond establishing a good atmosphere for vocational training, the program plans to provide in-depth exploration, up-to-date career information and, finally, training.

Assimilation of the career education concept into the educational program is being achieved by gaining the acceptance and support of central administrations in school districts, and through inservice training of teaching and counseling staff. The inservice training includes special courses on undergraduate and graduate levels and the use of a coordinator who assists teachers with the use of curriculum guides, occupational monographs, video-tapes, etc.

The Center has several features particular to its career education program. Among these are: a curriculum resource guide designed by teachers and aimed at grades K-6; occupational monographs--300 job briefs describing occupations in 7 area counties (grades 7-12); a "Career Night" and Employment "Information Day" programs designed to bring high school students together with the business community; a Speakers Bureau which provides speakers from local business and industry for classroom participation; and "Careers on the Air," a weekly radio series on two local radio stations.

Supportive services available to students are well worked out to combine the best that the school and the business community can offer. Besides the guidance counseling available to all grades, the special programs mentioned above and visual aids, an ad hoc committee of persons representing education, government and industry has been formed to discuss, plan and determine policy for the program. This committee along with other groups such as the Chamber of Commerce, Rural Manpower, the New York State Employment Service, community colleges and the Mid-Hudson Industrial Association have established a continuing liaison between the student and business world in order that the student may receive in-depth information and on-site training, and in order that he may be placed in a job upon leaving school.

Plans are under way to develop a data bank of available jobs and educational programs which will more efficiently utilize educational and

community resources in the placement of students.

Data is being gathered through evaluations and the use of special testing to determine the progress and success of every phase of the career education program. Attitudinal changes in staff are being tested through Dr. Munson's Attitudinal Scale.

Status: On-going

Source: Morgan, Robert, et al. Synopsis of Selected Career Education Programs. A National Overview of Career Education. Volume I.
Raleigh, NC: National Center for Occupational Education, North Carolina State University. April, 1972.

Contact: Robert W. Schreiber, Director
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KNOX COUNTY SCHOOLS
KNOXVILLE, TENNESSEE

Career education is being taught in grades K-12 with 100% student participation in grades K-8 and 52% participation in grades 9-12.

The main goals of the program include: helping the student understand himself, relate to others and develop appropriate attitudes toward the world of work (K-4); giving students exposure to a multitude of occupations in order that they may explore jobs suited to their interests, values and abilities (5-8); and making provisions for the student to begin preparation for development of knowledge and skills in more specific job families (9-12). To reach this last goal, the objectives are to develop instructional materials, develop an orientation program, provide summer job experience, create a cooperative and job placement program with on-job training, and establish a follow-up program.

Assimilation is insured by a complete re-designing of the entire curriculum to include career education concepts. This involves inservice training for teachers, the establishment of Career Corners and exploratory labs for students to gain hands-on experiences, and the development of a contemporary arts program and a career learning lab at the elementary level. Principals and instructional supervisors were given orientation through meetings at each school. An on-going inservice program is maintained for all faculties which includes two intensive one-week workshops during the summer.

Supportive services available to all students include guidance counseling, placement, follow-up, a work-study program and a career orientation program.

Community resources have been tapped through an advisory council representing industry and community agencies, resource persons and parents. Field trips for students to business and community have been one of the results of this liaison.

Opportunities for job preparation are provided through the exploratory labs (grades 5-8), career orientation program at the 9th grade level, vocational courses at the 11-12 level and the work-study program (on-the-job training). While job placement is the responsibility of the Job Placement/Follow-up Coordinator, guidance counselors in all high schools aid the program.

Evaluation of the Career education program's success or failure will consider three major groups: students, teachers and parents. Students will be measured for knowledge of occupations, change in interests, self-image, acceptance of responsibility, getting along with people and development of work values. Teachers will be measured for knowledge of occupations,

attitude and morale, while parents will be tested for attitude, interest, participation and student enrollment in vocational education.

Status: On-going

Source: Morgan, Robert, et al. Synopsis of Selected Career Education Programs. A National Overview of Career Education. Volume I.
Raleigh: National Center for Occupational Education, North Carolina State University. April, 1972.

Contact: Mr. Bruce Hinton, Local Director
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SPRINGFIELD PUBLIC SCHOOLS
SPRINGFIELD, OREGON

The career education program spans grade segments 1-6, 7-9 and 10-12. There is 13.5% participation of students in the Career Awareness segment (1-6), 90% in the Career Exploration segment (7-9) and 33% in the Career Clusters segment (10-12).

The program has seven overall career education goals: to provide sufficient career experiences and information at all grade levels; to prepare students with skills and knowledge necessary for entry into future employment; to provide socially and economically relevant education; to provide adequate and continuous guidance; to provide curriculums in career education; to utilize all personnel in the achievement of career education objectives; and to provide systematic evaluation to assure the program's relevance. First through sixth grades will stress awareness, seventh through ninth will stress exploration and tenth through twelfth will stress on-the-job experiences and learning entry skills.

Visitations to outstanding programs by staff, advisory committee members and administrators resulted in increased efforts of implementation. Also, over 300 staff members have been involved in inservice programs in group processes, communications and curriculum development which focused on the occupational life role in order to aid assimilation.

Curriculum changes have included more flexibility, more release time and use of learning packages for the career clusters.

Supportive services available to all segments in the program include guidance--both personal and group sessions; O.I.A.S. (Occupational Information Access System) which is a computer assisted information system; and follow-up studies which are partly compiled by VERIFY, a state coordinated follow-up. Also, the GATB test is utilized by each senior high for guidance purpose.

Student placement is presently on both a formal and informal basis. Several guidance personnel are assigned to this function, but some placement occurs through the cooperative work experience program. A plan for an organized and systematic placement program has been developed.

One of the major efforts of the program has been inservice activities for faculty and staff. Through cooperation with Oregon State University more than 300 staff members have been affected.

Community involvement is another primary objective of the career education program. The community and students have participated in discussion and planning sessions through several mediums: advisory committee, field trips, speakers, resource lists and parent participation.

Students participating in the career education program are prepared for three primary placement alternatives: entry level jobs, continuing education of all types and armed forces. A program at a local community college will assist senior high students become more proficient in an employment area without unnecessary repetition of training.

The following sources are being used for evaluation of the program: district follow-up studies, Project VERIFY, community surveys, Project C.O.R.E., and an advisory committee survey.

Status: On-going

Source: Morgan, Robert L., et al. Synopses of Selected Career Education Programs: A National Overview of Career Education. Volume 1.
Raleigh: National Center for Occupational Education, North Carolina State University at Raleigh. April, 1972.

Contact: Mr. William E. Lewellen
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PROGRAM STATUS UNCERTAIN

CLEVELAND'S FACTORY-SCHOOL

A program to train the disadvantaged called the Woodland Job Center is operated by the Cleveland school system with help from private industry and foundations.

The program is headquartered in a four-story building formerly owned by the General Electric Company in the heart of a high unemployment district. The building was donated by the firm to the Cleveland Board of Education. The program is financed through contributions by participating companies to Woodland Enterprises and through grants from Educational Facilities Laboratory and the Martha Jennings Foundation.

Cleveland Superintendent of Schools, Paul W. Briggs, says that the program is aimed at the high school dropout, the underemployed and the unemployed. Students perform actual manufacturing tasks for which they are paid, while learning basic industrial skills. It is believed to be the first program in the nation to combine under one roof basic and remedial education, training in job skills and paid business-sponsored work experiences.

Agreements between the Cleveland Public School System and companies establishing operation at the Woodland Center include the following provisions, according to Donald V. Heelas, Director of Technical-Vocational Education for the school system.

1. The company policies and procedures are taught by company men.
2. The production of an item becomes a marketable product or a product that is to be used in-plant.
3. The related instruction is so designed and implemented that it supports the production in the shop.
4. The total supportive services of the school system are at the command of the company: visual aids; audio aids; library; and counseling.
5. It provides for an evaluation of performance prior to the trainee/employee moving to the mother plant.
6. It provides for the recycling of a trainee/employee back to the Woodland Job Center should the occasion demand.
7. The retention rate is higher because the trainee/employee knows he is being trained for a specific job in a specific company.

For a prospective trainee/employee a number of positive, immediate actions take place:

1. The trainee/employee is on a company payroll at enrollment.
2. The atmosphere is not sterile but rather like it is at the main plant.
3. He is producing marketable items, not playing.
4. He is generally well within his community, not having to cross uncharted turf.
5. He sees members of his peer group move out to the main plant and gets feedback.
6. He receives immediate gratification; doesn't have to wait for future promises.
7. He doesn't have to complete the training in a predetermined set time block.

Companies that have or are now participating in this venture include: General Electric Company; Chevrolet Division of General Motors Corporation; East Ohio Gas Company; Cleveland Electric Illuminating Company; Ohio Bell Telephone Company; Otis Elevator; and Sears Roebuck and Company. Others are currently being developed.

Some shop areas have been set up by the Cleveland Public Schools so that specific types of programs may start immediately. They include a machine shop, general metal shop, building maintenance shop, an electrical, and electronics shop.

Space is available for additional shop areas to meet the demands of a company or consortium of companies or trade associations. Classrooms are also available to companies desiring that type of room. Depending on the need of a company, the full supportive services in the building are available, including a teaching staff.

Recreation has not been overlooked. The basement is being converted to house a recreational program. The first unit is a three-lane Brunswick bowling area which is now being installed. Additional sports activities will include billiards and ping pong. A series of meeting rooms and a small snack bar will round out the activity area.

Lunch is presently being served in a cafeteria located on the second floor.

Plans are now under way to establish programs for other special needs groups such as the immigrant, the handicapped, and so on.

Status: Information not available

Source: Burt, Samuel M., and Lessinger, Leon M. Volunteer Industry Involvement in Public Education. Lexington, MA: Heath Lexington Books, D. C. Heath and Company. 1970. 203 pp.

Contact: Unknown

PACIFIC TELEPHONE COMPANY
"BRIDGING THE GAP" PROGRAM

The Pacific Telephone Company, Sacramento, in examining its contribution to education, discovered that it could better meet the needs of educators and increase student holdingpower in the community by providing a working vehicle through which teachers, counselors, and students could be apprised of the range of jobs available, the dimensions and requirements of each job, and the duties which employees are called upon to perform. Particularly conscious of the problem of the underachiever and the need to remove common but false barriers, the company developed a four-phase program called "Bridging the Gap." In essence, the goal of this program is to motivate secondary school students to take full advantage of their educational opportunities by providing for them a realistic connection between their school world and the world of work.

Through face to face exposure to each job and observation of employees at work, a student can translate his vague concept of a job into a real one. He then becomes able to make the connection himself between what he is learning in school and how he can use it on the job. Bridging the Gap consists of four integrated phases.

Phase I. Five-day counselor workshop conducted during the summer, held on company premises with the following objectives: 1) to acquaint counselors with the overall aims of bridging the Gap; 2) to provide opportunity for close observation of jobs and force interchange of information with employees; 3) to establish meaningful relationships between curriculum and skills needed on the job; 4) to introduce participants to the financial facts of the business; 5) to break down traditional false images which inhibit understanding; and 6) to arm counselors with better, updated information they can bring to the counseling of students.

Phase II. A teacher workshop with the same objectives as Phase I, except that it is a series of one-day seminars during the school year on days such as Business-Education (BIE) and Teachers' Institute Days (TID).

Phase III. Student Workshop. This workshop is set up for 25 student participants who are selected through the Counselors Workshop Group, according to the following standards: 1) description of the job function and its relationship to other jobs in the organization; 2) face-to-face contact with actual jobs and employees at work, many of whom are close to the student's age; and 3) examples of how the knowledge the student is acquiring in school is applied on the job.

Unlike work-experience this type of program involves no productive work. Students learn by observing. They observe four hours one day a week over a period of five weeks and attend regular school classes for the other hours of that day, receiving school credit for their work.

Phase IV. Makes available to high school administrators, teachers, counselors, and students, resources such as films, surplus equipment, tours, technical advice, exhibits, and speakers. This effort touches a cross-section of students inasmuch as resources generally are used by whole classes rather than individuals.

Bridging the Gap has given participating counselors, teachers, and students a first hand look at the inner workings of the company's operation, which they can also transmit to nonattending students. All are impressed with Pacific Telephone's overriding objective-motivating high school students toward qualifying themselves for employment.

Feedback from educators praised the company for emphasizing the real connection between the student's world and the world of work. Four months after the conclusion of the Student Workshop phase, teachers and counselors reported improved attendance, grooming, and attitudes. Some students admitted that what they had observed during their workshop was the deciding factor between staying in school and dropping out.

Other industries and public agencies are joining with the company in conducting all or part of the program; support has come from the Sacramento County Superintendent of Schools. The Sacramento State College has included the program in its Summer Session and is offering a unit of credit to school people for each week of attendance up to a maximum of four units applicable to salary increment credit. Further extension of the program to other colleges and universities is planned.

Status: Information not available

Source: Burt, Samuel M., and Lessinger, Leon M. Volunteer Industry Involvement in Public Education. Lexington, MA: Heath Lexington Books, D. C. Heath and Company. 1970. 203 pp.

Contact: Unknown

INDUSTRY'S STUDY OF ADMINISTRATION
OF NEW HAVEN'S PUBLIC SCHOOLS

During the latter part of 1966 the new school superintendent of New Haven, Dr. John Santini, addressed the local chamber of Commerce Committee on Education concerning his problems of administration, communication, and control. The Chairman of the Committee, Mr. W. L. Wallace, a top executive in Olin's Winchester Group, the largest employer in the area, suggested that his company might conduct an organizational study of the school system which might resolve many of Dr. Santini's administrative problems. After several months of conversation in which the school administrative staff and company staff explored this possibility, it was agreed that Olin would make one of its management consultants available, full-time, to the school system for a period of six months.

In September 1967, the consultant, Mr. John B. Price, submitted his findings in a report to Dr. Santini. The report contained 45 recommendations, most of which had been developed in conjunction with the school people. After considerable discussion within the school system and among interested citizen groups, the report was finally made public late in 1967. At that time, Olin withdrew Mr. Price from the project, stating they did not believe that a person who had conducted such a study should be placed in charge of implementing its recommendations.

Just about that time, the Southern New England Telephone Company, which had conducted numerous programs in cooperation with local schools through the years, approached Dr. Santini for suggestions as to how the company might assist the New Haven school system. Dr. Santini requested a task force of top people from SNET to implement the recommendations of the "Price Report." Three executives were assigned by SNET to assist Dr. Santini and his staff to improve the school system's procedures for contract administration data processing record administration, communications within and without the system, and office management.

Among the accomplishments credited to this industry-school cooperative effort are:

1. the production of an Administrator's Manual of policies and procedures applicable to all phases of school administration;
2. a series of monthly in-service management training sessions for educational leaders, conducted by SNET, Olin and other business firms in the community;
3. development of organization charts for the entire school system;
4. development of an extensive and multi-faceted public relations program for the school system; and
5. assistance in developing a plan to organize advisory citizen councils for each school in the system.

While it is too early for full evaluation of this program, the Institute for Educational Development has concluded that given a willingness on the part of schools to seek assistance from industry, considerable help will be made available as a matter of public service on the part of industry. The business firms involved sought no publicity for themselves, did not attempt to impose outside authority on the school people nor offer unasked advice. While results have so far gone beyond expectation, there are many as yet unrealized benefits, accruing primarily from a better understanding of school problems by industry. Too, school people now feel they have allies in the business community. The IED report suggests that:

"While every city will rightly consider its own situation, many of the methods and guidelines worked out in New Haven may apply efficiently even in very large cities, where the need for administrative reorganization in the schools may be even more urgent."

Status: Information not available

Source: Burt, Samuel M., and Lessinger, Leon M. Volunteer Industry Involvement in Public Education. Lexington, MA: Heath Lexington Books, D. C. Heath and Company. 1970. 203 pp.

Contact: Unknown

SOUTH CAROLINA'S TECHNICAL EDUCATION CENTERS

What is probably the most unique statewide system of technical education in the United States is the network of technical education centers in South Carolina which are governed and administered by the State Technical Education Committee.

The program, initiated in May, 1961, was created for the purpose of coordinating education with economic development. The long-range manpower training requirements of industry and business are met primarily through the twelve highly sophisticated permanent technical education centers. These institutions provide a wide spectrum of programs, ranging in length from a few weeks through the two-year associate degree curricula. Basic literacy and low-skill training is also available. Special industry schools may be conducted in any of these centers or in other locations to recruit and train the initial work force for new and/or expanding plants. The State TEC System provides industrial engineers who work with the company to plan and operate the training program. The engineers visit a similar plant, if necessary, to analyze manpower and training and recruiting needs. If necessary a cinematographer will visit the plant to photograph the production processes for use in the subsequent training program. At the time of this writing, one of the engineers is in Europe, temporarily living there and designing the requirements of a large metal-working firm which will be establishing a plant in South Carolina. The engineers then formulate a complete plan for identifying, recruiting, selecting, and training the workers. This master plan for the new plant also contains a complete study of labor availability, skill requirements, wage rates, and fringe benefits for the needed job classifications. The engineers secure instructors locally or borrow them from the industry, with the state paying their total salaries for the instruction. Training equipment is either purchased by the state (if it is to be used for future "Special Schools"), provided from the State TEC Central Warehouse, borrowed from one of the Technical Education Centers, or borrowed from the company. If the firm provides the equipment, it is returned at the conclusion of the training program. TEC engineers and technical writers prepare individual training manuals that incorporate analytical methods training techniques. Each training program is tailored to the specific needs of the firm. Trainees attend on their own time without any training allowance or other compensation. Normally, trainees are underemployed individuals holding a regular job.

Each of the twelve Technical Education Centers is organized to meet the manpower needs of the industries in the communities they serve. Several of the Centers value their equipment at well over \$1 million. Some of the training laboratories contain equipment and facilities sufficiently sophisticated so as to be used for research and for upgrading training of skilled personnel of local industrial plants. Each program offered by the Centers

is served by an advisory committee composed of industry representatives in the area. Currently, there are plans to establish statewide advisory committees for those programs offered in two or more centers. These statewide committees will be coordinated by a Director of Industry-Education Liaison operating out of the state office of the Technical Education Committee.

The State Technical Education system is credited with having brought into South Carolina more new industry in the last five years than has located in all other Southern states in this same period of time.

Status: Information not available

Source: Burt, Samuel M., and Lessinger, Leon M. Volunteer Industry Involvement in Public Education. Lexington, MA: Heath Lexington Books, D. C. Heath and Company. 1970. 203 pp.

Contact: Unknown

CHASE MANHATTAN'S
BUSINESS EXPERIENCE TRAINING PROGRAM

The Business Experience Training Program (BET) was initiated by the Chase Manhattan Bank in New York City in response to the high dropout rate in area high schools. Chase's attempt at corrective action was designed to expose students to the business world by providing part-time employment for potential high school dropouts from disadvantaged areas in the city. The program was perceived as a means of meeting company staffing needs through pre-employment training as well as "part of corporate civic responsibility to attempt to solve social problems."

The purposes of the program are (1) to provide students with part-time work in order to enhance their employability and (2) to encourage them to complete their high school education and to compete in college.

The State Employment Agency is involved in this project, but all funds are provided by Chase and the program is conducted solely on bank premises. Participating schools and the Employment Security Agency are primarily involved in recruitment, screening, and selection although Chase makes all final selection decisions. Screening procedures emphasize interviewing rather than test results (two separate interviews are conducted at different times for each applicant). After interviewing, BET program officials select the number of participants needed from lists provided by two different schools.

At present, a total of 100 male trainees are involved in the 84-week program. Trainees are junior and senior class students from the inner-city, most of whom are Negro or Puerto Rican. They work a three-hour day (about 13 hours a week) and receive an hourly wage of \$2.10. The training offered is broad and student exposure is varied through job rotation techniques based on departmental needs. Group orientation for trainees is held at the beginning of training and is conducted periodically during the following five months.

More than 75 company personnel are involved in this program, including one staff member (the assistant coordinator) who is from the target population. Company personnel are given orientation training by Chase's training department; this includes first-line supervisors and middle management personnel in addition to the personnel department.

Each participant is assigned to a co-worker who acts as a job training coach. Participants are also provided with individual counseling on a regular basis which is concerned both with problems of job performance and those of a more personal nature. Such counseling is available to participants after they have completed training and are employed in the bank.

BET has been in operation since 1964 and has trained over 150 young people. Of the 19 original trainees, 14 are working full-time, and each of the 14 intends to further his education with the help of Chase's Tuition Refund Plan. One of the 14 was selected to participate in Chase's Accelerated Career Training Program which trains superior high school graduates and outstanding employees.

The company considers BET to be a relatively inexpensive program and feels that the greatest advantage of working with the schools is that of ease of recruitment. The school, on the other hand, cites as the outstanding positive feature the fact that "this selected group has been encouraged to go on--they have found they can get involved in higher level work."

Status: Information not available

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: BET Administrator
Chase Manhattan Bank
One Chase Manhattan Plaza
New York City, New York

STOUT STATE UNIVERSITY

In recognizing the need to improve the occupational competency of technical teachers, Stout State also recognized the benefits to be gained through school-industry cooperation. Through ties with business and industry, the teaching staff can become aware of new industry practices and technologies and of the skills required of beginning workers. With this first hand knowledge, vocational and technical instructors can evaluate the relevancy of their curricula and teachings.

On the other hand, industry stands to gain benefits from close ties with education. Technical programs such as those at Stout State and other educational institutions represent the major source of competent workers needed by industry. By cooperating with educational institutions, industry can inform teacher educators, supervisors, and vocational and technical teachers of job opportunities and job requirements.

Entorf and Callender (1969) have described an exchange program which involved the cooperative efforts of the School of Applied Science and Technology at Stout State University and Deere and Company. A review of the first year's operation of this program is presented in the following paragraphs.

1. To establish a closer working relationship between Stout State University and industry, in this case Deere and Company.
2. To update the occupational competency of the vocational teaching staff at Stout State.
3. To gain insight, through the exchange of personnel, pertaining to needed revisions of curricula and programs.
4. To assess the employment opportunities and requirements for workers in this field.

Having decided that the field of foundry would be of greatest benefit to both parties, the exchange of a foundry worker and a college foundry instructor was implemented. This program involved an instructor from Stout State University assuming a rotating supervisory role in six foundries of Deere and Company. Following a brief training period this teacher was placed in a foreman's position and given the opportunity to become familiar with the various operations in the foundries. This experience included learning current practices regarding metallurgy, quality control, and industrial relations.

To fill the teaching position left vacant by the participating instructor, Deere and Company selected a supervisor who could teach an introductory course and one advanced course in foundry. Although this supervisor had had prior teaching experience, he was given a brief orientation to Stout State. In addition to teaching the two classes, the representative from Deere and Company also participated in the routine activities required of a faculty member. While at Stout State he suggested improvements in the instructional program.

The instructor from Stout State and the supervisor from Deere and Company continued to draw their salaries from their home institution. However, Deere and Company paid the living expenses of both participants and the traveling expenses of its supervisor. Stout State assumed the traveling expenses of its instructor while he was at the foundries. Both participants submitted reports of their activities, thus providing data for evaluating the exchange program.

The strength of this program rests with the fact that there was an actual exchange of school and industry personnel. On the one hand, the college instructor gained valuable insight into the operations and technology of the Deere and Company, an experience which should contribute to assuring the relevancy of the educational programs at Stout State University. On the other hand, the visiting supervisor from Deere and Company gained firsthand knowledge of the problems and limitations of education in regard to vocational and technical training. Based on this mutual exchange of perspectives a closer cooperative effort toward a stronger educational program should result.

As noted by Entorf and Callender (1969), the weaknesses of this first attempt at an exchange program centered around the need for more planning, orientation or training periods for the participants, and more coordination to assure a more meaningful experience.

Specific areas requiring attention in developing similar programs are as follows:

1. Class Load
2. Counseling
3. Preparation
4. Breadth vs. Intensity of Study
5. Specific Topics of Each Tour
6. Review of Program Scope
7. Overlapping of Programs

sonnel are well pleased with the results of their efforts, and the store intends to continue the program on a permanent basis.

Status: Information not available

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Training Department
Goldsmith's Department Store
123 South Main
Memphis, Tennessee 38101

PROGRAMS NOT PRESENTLY OPERATING

WAYNE STATE UNIVERSITY

The Department of Industrial Education at Wayne State University (Silvius, 1967) has tested several approaches which provide the technical and professional preparation needed for teaching vocational and technical subjects. Persons with extensive technical and industrial experience are encouraged to be vocational or technical teachers and to meet degree and teaching certification requirements.

Through the cooperative work-study program, these experienced tradesmen or technicians are prepared to: 1) develop and organize teaching materials, 2) develop a course of study, 3) prepare instructional materials, 4) plan a laboratory, 5) counsel students, and 6) present the course content as it relates to their high level of specialization and experience.

The experienced craftsmen and technicians in the cooperative plan at WSU register for four to 10 quarter hours during successive terms. Their work experience is converted into college credit. Through the careful selection and planning of a series of college-level projects, it is possible to help these persons make an adequate transition from tradesmen or experienced technicians to industrial educators.

Credit at the University is based on advanced technical competence at the post-journeyman level. During the transition from an industrial setting to a teaching situation, these individuals work at advanced technical assignments, and emphasis is placed on professional orientation. The college coordinator counsels and directs the practicing tradesman or technician through a series of college-level projects designed to equip the potential teacher with the professional experiences necessary in organizing, developing, and structuring instructional material for a particular teaching specialty.

An orientation session for all persons enrolled is held on the first Saturday of a new term to enable those who are working full time to attend. A slide presentation by the departmental coordinator explains the objectives, procedures, projects, forms, and assignments that are needed for participation in the program.

The student arranges with his immediate supervisor in industry for the University coordinator to visit him on the job. During these visits, the coordinator has an opportunity to confer with the supervisor regarding the student's abilities, proficiencies, and responsibilities.

Universities need teacher education programs that are predicated on utilizing the resources of community industries in the preparation of teachers for vocational education. As potential vocational and technical teachers gather experience in writing periodic reports, doing library research, and organizing instructional materials, they become competent

in organizing and structuring technical content into a logical and teachable format. The student in this program must be reaching journeyman status, or the equivalent, to participate in the program. The emphasis is placed on helping the experienced tradesman or technician relate his industrial experiences to the development of needed materials for a teaching situation and to extend technical insights. Through careful analysis, assessment, and direction, these craftsmen or technicians should make a systematic transition from industry to education.

Status: Not in operation

Source: Beasley, Gary and Smiley, James. Occupational Experience for Vocational Education Teachers: A Handbook for Teacher Educators. Information Series 40. Columbus: The Center for Vocational and Technical Education, The Ohio State University. 1971. (VT 013 044-- see RIE, June 1972)

Contact: Unknown

DETROIT PUBLIC SCHOOLS
AND THE BANK OF THE COMMONWEALTH

Since total employment remains one of Detroit's most persistent problems, the Guidance and Counseling Department of the Detroit Public Schools and the Michigan Employment Security Commission (MESC) met together to investigate the feasibility of a community effort to train and hire persons from the inner-city. Specifically, the investigators explored ways for maximizing the employment opportunities of graduating high school seniors.

The result was a cooperative approach to employment services for June graduates unable to find employment; and a pilot project, involving a city-wide job fair, was initiated as a technique for bringing employers and job seekers together on neutral ground for satisfaction of their mutual needs. The Bank of the Commonwealth was one of the many employers contacted by MESC which subsequently participated in the Job Fair.

The two-day Job Fair which resulted from Detroit community cooperative efforts took place two weeks after graduation (mid-July 1968) to avoid any conflict of interest with commencement activities. Students had first been encouraged to find their own jobs, and the Job Fair was actually geared to securing employment for those unable to find jobs. A total of 503 students participated; the majority of participants were female minority group members.

The Detroit Job Fair was coordinated under the direction of the Guidance and Counseling Department of Detroit Public Schools. The Institute of Labor and Industrial Relations of Wayne State University provided the space for the activities, and the Wayne State Guidance Department provided the counseling services of graduate students enrolled in a summer-session occupational information class. Orientation for the 48 student counselors was undertaken by personnel from the Detroit Public School System and MESC. It included treatment of such items as punctuality, personal appearance, and references, in addition to the importance of entry jobs. The use of student counselors provided a good opportunity for in-service training and was a helpful contribution since regular school counselors were vacationing.

MESC arranged for the participation of the employer. A total of 32 employers participated with representation including department stores, food stores, banks, hospitals, automobile companies, an airline, a beverage company, a clothing store, a bedding manufacturer, a telephone company, an employment agency, and a government agency.

For publicity purposes, fliers were distributed to all seniors enrolled in Detroit's public and parochial high schools. Officials also alerted television and radio personnel to the Detroit Job Fair. And finally, publicity was provided by Detroit's Youth Opportunity Center.

The first day's activities were based on a Readiness Clinic which included small group and individual counseling, coaching and a film on job-seeking techniques, and issuance to each applicant of three introduction cards for scheduling interviews with prospective employers. The second day's activities consisted of interviews conducted by employers.

As a result of the Job Fair, more than 200 graduates were given employment: 119 were hired on the spot and 80 more were later hired. Unsuccessful job seekers were to be contacted by MESC for additional testing, counseling, and referral.

Experience with the Job Fair pilot project led to a number of suggestions for improvement. It was suggested, for example, that for efficient operation, the Clinic Day and the Employer Day should be a few days apart; that company application forms should be completed on Clinic Day to allow as much time as possible for interviews during Employer Day; that a central scheduling approach should be used to establish appointment time and information for both applicant and employer; that placement of interview tables should offer the interviewee maximum privacy; and, that employers should provide complete job descriptions for use by counselors prior to the Fair.

Status: Not in existence (each school handles own program)

Source: Douglass, Linda G., comp. Industry and Schools Cooperate in 15 Different Ways. Washington, DC: Office of Education (DHEW).
June, 1969. 37 pp.

Contact: Detroit Job Fair
Detroit Public Schools
5057 Woodward Avenue
Detroit, Michigan 48202

GOODYEAR TIRE AND RUBBER COMPANY
AND THE AKRON PUBLIC SCHOOLS

Goodyear Tire and Rubber Company (in addition to Firestone Tire and Rubber Company, Ohio Bell Telephone, the Akron hospitals, and Summit City Building Trades) cooperates with the Akron Public School System to provide summer work experience for high school counselors from Akron inner-city schools. The goal of the program is to familiarize counselors with the jobs available for the disadvantaged and the training needed for those jobs. This unique approach was initiated in an effort to inject realism into counselor training and to render counselors more capable of properly guiding inner-city youth and of improving students' knowledge of job opportunities.

Several Akron secondary schools participate in the three-year old program. The schools are responsible for recruitment, screening, and selection activities while the companies provide occupational information, placement, and on-the-job training on company premises.

Students were included in the program of exposure so that, hopefully, they could relay credible information to their classmates through a slide presentation of their experiences. Thus from each participating school, students recognized as leaders of below average or average school classes were selected to participate with the counselors in order to provide for credibility and to optimize identification of fellow students with the student participant.

Counselors and students spend from six to eight weeks in the company for eight hours each day during the summer. They observe, question, and investigate the entry-level job opportunities available in these companies for students out of school. Both counselor and student trainees are paid by the employer. In a typical program cycle, 75% of the participants are white and 25% are black.

The use made of program offerings by the counselors is relatively individualized. Each participating counselor adapts the program to the particular needs of the students he serves. Since many of the same counselors participate every year, program officials try to enrich the program by adding new elements yearly. Furthermore, counselor critiques are requested and the resulting feedback is used to improve the program.

According to school officials, the most significant change which co-operation with industry has effected is in the mathematics curriculum and in counseling. One of the greatest benefits of the program has been the establishment of better communication. Reportedly, the counselors and the business people each have begun to understand and appreciate the positions of the other.

VT 010 871 ED 038 534 Fall 1970 ARM
 Industry and Education, Study No. 2/Partnerships: "Partnership" High
 Schools: The Search for New Ways to Cooperate.

Institute for Educational Development, New York, N.Y.
 EDRS PRICE MF-\$0.65 HC \$3.29
 Institute for Educational Development, 52 Vanderbilt Avenue, New York,
 New York 10017 (\$1.00).
 Pub. Date - Oct. 69 63p.

DESCRIPTORS - *School Industry Relationship; *Cooperative Programs;
 *Educational Development; *High Schools; Relevance (Education); *Coopera-
 tive Education; Program Planning; School Community Programs

ABSTRACT - A new phenomenon in American education is the working relation-
 ship of "high school partnerships." These commitments between a corpora-
 tion and an urban school pledge cooperation over a period of years in an
 organized group of projects intended to improve education and benefit the
 students. To determine the problems, risks, and potentials of high school
 partnership programs, representatives of 10 partnership programs were
 interviewed and completed questionnaires. Although it is too soon to ex-
 pect conclusive evaluation of the partnership programs, some patterns have
 emerged which should prove valuable to future associations. This report
 covers: (1) history of the cooperative school, (2) what partnerships are,
 (3) what happens to a partnership, (4) how to start a partnership, (5)
 evaluation of program, and (6) some preliminary conclusions. A summary of
 projects in 30 partnerships, catalog of companies and schools, a company's
 agreement, a partnership plan, methods of study, an interview guide, and
 a sample questionnaire are appended. (GR)

VT 011 558 ED 042 044 Winter 1970 ARM
 Continuation of Interpretive Study of Cooperative Efforts of Private
 Industry and the Schools to Provide Job-Oriented Education Programs for
 the Disadvantaged. Final Report.

Tennessee Occupational Research and Development Coordinating Unit, Knox-
 ville. Office of Education (DHEW), Washington, D. C. Bureau of Research.
 EDRS Price MF-\$0.65 HC \$3.29 OEG-0-8-080610-4489(010) 24
 BR-8-0610

Pub. Date - Apr. 70 95p.

DESCRIPTORS - *Adult Basic Education; *Cooperative Programs; Culturally Dis-
 advantaged; *Disadvantaged Groups; Educational Programs; Interagency Coopera-
 tion; Job Training; *School Industry Relationship; *Vocational Education

ABSTRACT - This continuation phase of the interpretive study attempted to
 promote the dissemination and utilization of materials and methods which
 were developed in the initial phase. The purpose was to encourage the
 initiation and improvement of job-oriented education programs for the dis-
 advantaged through the cooperative efforts of all segments of the community.
 Information prepared in the initial phase was repackaged and directed speci-

fically to the businessmen, educators, and community agency representatives who would form the audience for a seminar on job training and education for the disadvantaged. State vocational/technical education directors participating in a workshop were assisted by project staff in sponsoring seminars in their home states. Although seminars resulted in only three states, those who participated expressed their belief that the seminar was an initial step toward achievement of the important community objective of more cooperation between industry and the schools in preparing the disadvantaged for employment. The report of information compiled in the initial phase is available as ED 027 442. (Author/BH)

VT 011 655 ED 051 432 set

Spring 1971 ARM

Siklos, T.

Partnership Incorporated; An Account of a Joint Effort to Solve the Problems of Apprentice Training.

City and Guilds of London Inst., Inc., (England).

DOCUMENT NOT AVAILABLE FROM EDRS.

City and Guilds of London Institute, 76 Portland Place, London, W. I, England.

Pub. Date - Nov. 63 4lp.

DESCRIPTORS - *Trade and Industrial Education; *School Industry Relationship; *Program Administration; Program Development; *Foreign Countries; *Apprenticeships; Industrial Education; Instructional Staff; Program Descriptions; Advisory Committees
Identifiers - *England

ABSTRACT - To overcome some of the problems which hamper a small firm in training apprentices, local industry combined its efforts with the local education authority to provide an apprentice training center for full-time training in an experimental program at Crawley College of Further Education. In the partnership, the local education authority administers the center, while financial support is contributed by the industrial firms. Active participation by industry is accomplished through the advisory committee which has been set up to make recommendations to the governing body. A senior training officer and three assistant training officers comprise the instructional staff. Students are selected for training and paid during the training by the firm that will eventually employ them. The training course is designed to cover the apprentices' first year and is planned to achieve coordination between technical processes, the theory on which these are based, and workshop drawing. During the year each apprentice gets a total of 1,300 hours of integrated workshop practice and theory. Other related documents are available as VT 008 732 (AIM Winter 1970) and VT 011 653-VT 011 657 (all in this issue). (SB)

VT 012 172 ED 054 390 set

Summer 1971 ARM

Douglass, Linda G., Comp.

Industry and Schools Cooperate in 15 Different Ways.

Office of Education (DHEW), Washington, D. C.
 MF AVAILABLE IN VT-ERIC SET
 Pub. Date - Jun. 69 37p.

DESCRIPTORS - *Cooperative Programs; *Vocational Education; *Disadvantaged Groups; *Disadvantaged Youth; Shared Services; School Industry Relationship; Cooperative Education; Culturally Disadvantaged; Economically Disadvantaged

ABSTRACT - Designed for use by persons interested in examining the present state of cooperative training efforts, this booklet describes 15 training programs for the disadvantaged as selected from more than 60 programs identified in a previous nationwide survey. It is intended to demonstrate what has been done and to offer to the imaginative reader a glimpse of what can be done in the future. Program categories of (1) Disadvantaged In-School Youth/Potential Dropouts, (2) School Dropouts, (3) Hard-Core Unemployed, (4) Company Employees, (5) Prospective Employees, and (6) School Counselors, were arbitrarily selected by the investigators to provide a representative picture of cooperative training efforts. Each program description includes: (1) Beginnings, (2) Program Facts, (3) Problems and Solutions when appropriate, (4) Results, and (5) a contact address for additional information. (GR)

VT 012 755 ED 057 254 Set Fall 1971 ARM
 Emerging Patterns. Academic and Industrial Approaches to Education, Training and Manpower Development in Graphic Communications.

Graphic Arts Technical Foundation, Inc.,
 Pittsburgh, Pa.

MF AVAILABLE IN VT-ERIC Set.

The Graphic Arts Technical Foundation, Inc.,
 4615 Forbes Avenue, Pittsburgh, Pennsylvania 15213.

Pub. Date - 69 96p. Addresses given at the Graphic Arts Technical Foundation, Inc. General Education Meeting (1969).

DESCRIPTORS - *Graphic Arts; Educational Supply; *Trade and Industrial Education; Educational Needs; *Manpower Needs; *Curriculum Problems, *School Industry Relationship; Educational Improvement; Community Colleges; Inplant Programs

ABSTRACT - For many years, school and industry educational programs have failed to meet the manpower needs in the graphic arts occupations. This gap has widened as changes in jobs and required skills have not been accompanied by educational changes. The 10 papers presented in this document by K. C. Morrissey, R. I. Squire, R. Cowan, W. J. Henretty, R. G. Karnes, K. G. Scheid, W. H. Smith, L. A. Valicenti, R. B. Burr, and F. R. Maffei, Jr., have as a common goal the improvement of coordination between school and industry in meeting educational needs. The papers cover the community college role, graphic arts curriculum, inplant programs, education as a capital investment, and evaluation of present efforts by school, association, and industry. (BH)

VT 013 200 (see RIE, June 1972)

Vol. 5 No. 1 ARM

Gysbers, Norman C.; Ferguson, John L.
The Industrial Information Institute: Introducing Educational Personnel
to the Work World.

Missouri Univ., Columbia.
MF AVAILABLE IN VT-ERIC SET
Pub. Date - ND 6p.

DESCRIPTORS - *Institutes (Training Programs); *School Industry Relationship; *Counselor Training; *Inservice Programs; Summer Institutes; Occupational Guidance; Guidance Personnel; Industry

ABSTRACT - In order for business industry and labor personnel to increase and broaden their knowledge and appreciation of the educational process and also for educational personnel, especially guidance counselors, to gain knowledge and appreciation of the work world, a summer institute was planned. This report provides details of the organization and conduct of a 6-week program in St. Louis and Kansas City to provide participants a chance to spend time with companies and time in lectures, demonstrations and small group classroom activities. Benefits from the program included an increase in communication with a better understanding resulting between business and education, personal contacts for guidance counselors in business for student referral, and a better understanding of the needs of industry by counselors to make more meaningful contributions in high school curriculum planning. (RR)

VT 012 261 (see RIE, June 1972)

Vol. 5 No. 1 ARM

Training and Technology: Developing Technical Skills for Black Trainees
in a Worker Training Program.

Appalachian Regional Commission, Washington, D. C.
Atomic Energy Commission, Oak Ridge, Tenn.
Department of Labor, Washington, D. C.
MF AVAILABLE IN VT-ERIC SET
Pub. Date - Oct. 70 25p.

DESCRIPTORS - *Adult Vocational Education; Manpower Utilization; *Cooperative Programs; Technical Education; *Culturally Disadvantaged; Manpower Development; *Negroes; *Negro Employment; Career Opportunities; Inner City Identifiers - *Training and Technology; TAT

ABSTRACT - This report discusses the effects of the training and technology (TAT) worker training program on its black trainees. Data are provided for the 160 black 1969 graduates, who were recruited mainly from the inner cities of Knoxville, Chattanooga, Chicago, or the Oak Ridge area, although 132 of the trainees were high school graduates, many did not achieve ninth grade math and reading levels upon entry into the program. The individual data which are provided for the black graduates show an average income rise of \$5,000 resulting from the 6-month training program, with every graduate re-

ceiving at least one firm job offer. The report points out the need for active participation by employers in eliminating the relocation problems which are common among newly employed black training graduates. (BH)

VT 013 078 (see RIE, June 1972)

Vol. 5 No. 1 ARM

Cochran, Leslie H.

Youth with Special Needs: Industry-Education Shared Responsibilities.
Haven Hill Conference Final Report.

Michigan Council on Industrial Arts Teacher Education
Michigan State Dept. of Vocational Education, Lansing

MF AVAILABLE IN VT-ERIC SET

Pub. Date - Feb. 71 66p.

DESCRIPTORS - *Industrial Arts Teachers; *Professional Associations;
*Educational Needs; *Student Needs; *School Industry Relationship; Conference
Reports; Teacher Educators; Professional Personnel; Group Discussion;
Speeches; Industrial Training; Occupational Information
Identifiers - Michigan

ABSTRACT - Many of the state's leading educators attended a 2-day conference which was designed to provide an opportunity for open dialogues and discussions between teachers, teacher educators, and other leaders in the state. The 1970 conference focused on the theme, "Youth with special needs: Industry-education shared responsibility." Presentations included here are: (1) "Youth with special needs: What can be done?", by Wayne Grimm, (2) "Making use of Industrial Internships", by Lucas Pfeiffenberger, (3) "Special needs: The emerging work force", by Philip T. Sanders, (4) "Project 250: Hard-core program", by Laurence J. Washington, and (5) "What is industry's role with secondary schools", by Ted Rossiter, Laurence Givens, and C. Glenn Valentine. Priorities developed during brainstorming sessions, selected identified problems, and minutes of the business meeting are contained in this document. Included in the priorities were: (1) There is a need to reassert the role attitude development plays in industrial arts, and (2) There is a need to expose youth to the world of work and occupations earlier in their development. (GEB)

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