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ABSTRACT

This report describes the early experiences of selected upgrading programs currently underway in American industry. The research focuses on the practical perspectives of these efforts, especially the constraints encountered in program design and implementation, and the various techniques and responses which may overcome these constraints. The findings of this report are rooted in large measure in judgments of program staff, management officials, union leaders who have dealt closely with special projects, and the interpretations of the authors who have studied the upgrading issue for the past 2 years. This report is intended to fertilize the thinking of decision-makers about the problems and possibilities in providing greater opportunities for non-supervisory workers. Primary findings include: (1) Management will mount special training efforts when a specific need is identified, (2) Litigation by government agencies has often forced companies to develop special upgrading efforts for racial minorities, (3) Management is just beginning to relate production difficulties to personnel problems, (4) Workers are not articulating demands for more upgrading opportunities, and (5) Workers are reluctant to participate in upgrading programs involving substantial expenditures of their time and money. (Author/CD)

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UPGRADING THE WORKFORCE

Problems and Possibilities

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FOREWORD

This report was prepared by staff members of E. F. Shelley and Company, Inc., under contract with the U. S. Department of Labor, Manpower Administration. In important support to the authors, Miss Ann McLeod assisted in the initial research and subsequent field work, and provided invaluable aid during the writing and editing of the final draft.

We are grateful to the many government, union, management and program officials who were kind enough to share with us their views on upgrading the workforce. We trust we have done justice to their efforts to enhance promotional opportunities, but it must be emphasized that the conclusions and judgments are the responsibility of the authors.

The programs selected for study represent a small sample of the many innovative upgrading efforts underway in American industry. It is hoped that the programs selected provide a valid sample of the innovative responses by labor, management and government to the need to improve promotional opportunities for non-supervisory workers.

AWK
DDC

January, 1971

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FINDINGS — INTERPRETATION — POSSIBILITIES

Introduction

This report describes the early experiences of selected upgrading programs. The research focuses on the practical perspectives of these efforts, especially the constraints encountered in program design and implementation, and the various techniques and responses which may overcome these constraints. However, the sample was too limited and the data too uneven to allow developing strongly supported arguments. The findings of this report are rooted in large measure in judgements of program staff, management officials, and union leaders who have dealt closely with special projects, and the interpretations of the authors who have studied the upgrading issue for the past two years. This report is not intended to be a "how-to" guide for program implementation, but rather to fertilize the thinking of decision-makers about the problems and possibilities in providing greater opportunities for non-supervisory workers.

The body of the report begins with a chapter of general discussion, called the Overview, which leads to the

four main chapters of the study, each identifying a major constraint or problem involved in upgrading the workforce, and the positive responses to these problems in the form of casenotes about the various programs observed in field research. These programs are more broadly described in Appendix C.

The primary findings of the study follow immediately below. These points are linked by a section of interpretation to a brief list of suggestions for the Department of Labor, management, and unions about the possibilities of improved upgrading practices.

Findings

- ▶ Each industry has developed a process to turn out its product or service. This process largely determines the patterns of jobs available, and management, as a matter of course, trains and upgrades people as openings occur. Government monies often formalize and accelerate these regular training efforts.

- ▶ Management will mount special training efforts when a specific need is identified. Skill shortages and pressure from equal employment

opportunity agencies produce the greatest need for special training efforts.

- ▶ The litigation of the Equal Employment Opportunity Commission and the threat or actual withdrawal of government contracts by the Office of Federal Contract Compliance have often forced companies to develop special upgrading efforts for racial minorities.
- ▶ Management will not permit major change in the production process or personnel structure without economic justification and strong assurance that the production flow and profitability of the enterprise will be maintained or improved. Managers will consider major changes when faced with business crises or drops in productivity.
- ▶ The current economic downturn has severely reduced the number of available jobs and has solidified job progressions which hold upgrading potential in periods of expansion. It has not been a propitious time to market skills upgrading programs.
- ▶ Management is just beginning to relate some of its production difficulties to personnel problems.

In large measure, this thinking has been spurred by an inability to improve worker productivity, stem turnover and lessen discipline problems through traditional means. There is a striking concern also about the younger worker and the new attitudes he brings to the workplace.

▶ Management's efforts to provide special entry-level training for disadvantaged workers have revealed the potentials of discrete training efforts to solve specific personnel problems. Many of the training and motivational devices developed during these efforts have been modified and are an important part of the ad hoc upgrading projects.

▶ Except for small factions of black and female employees, workers are not articulating demands for more upgrading opportunity. However, when aspirations are encouraged, much unfulfilled ambition and job dissatisfaction surfaces which can prod management to consider new personnel activities.

▶ Workers are reluctant to participate in upgrading programs involving substantial expenditures of their time and money. In-plant, on-company-time

efforts overcome much of this difficulty by minimizing the cost to employees. Off-time, out-of-plant skills center programs, which require little adjustment for management but present great inconvenience to workers, can be successful if proper attention is directed to motivation and rewards.

▶ Basic educational deficiencies, rather than lack of manual skill abilities, have been a prime obstacle to upgrading the underemployed, especially when testing is required. Remedial instruction is the one extraordinary training need management clearly recognizes, but is reluctant or unable to offer on company time.

▶ Negative worker attitude toward promotion can be overcome in part by increasing his knowledge concerning his role in the production process, other occupations in the plant, and the goals of the company.

▶ Line managers and foremen often are more resistant to change than any interest group involved in personnel development. Inclusion of these supervisors in planning has helped convince

them of its validity and need, and spurred greater worker interest in the program.

- ▶ Organized labor can exert strong positive influence on management decisions to provide greater opportunity for its workforce. But unions will not support new programs unless the benefits to its members are clear and the union's authority and integrity are not threatened.

- ▶ There has been no single upgrading technique or program model which without modification can be applied to the needs, styles and structures of all companies. Agencies marketing upgrading efforts have voiced concern over the limitations caused by occupational structures and management priorities. Their response has been to increase the flexibility of their services to meet a wide range of company needs.

- ▶ Upgrading programs which move the trainee into established mobility structures are the most certain to have long range impact on his career opportunities and earning potential. Upgrading programs operating within compressed occupational structures serve to enhance jobs and boost

morale over the short run, but their lasting impact has been questioned.

▶ The best and most lasting upgrading efforts are those which strive for a total work environment of openness and opportunity deriving from management's broad interest in the needs of its employees. This environment is most fully developed by frequent two-way internal communication throughout the workplace.

Interpretation

Management presently sees little need to change personnel or promotion practices. The manager continues to believe strongly that opportunity for advancement exists in his organization, and the worker has only to take advantage of it. The need for workers has slackened in the current business decline, and companies are better able to hire-in many of the skills which upgrading programs were intended to provide.

It may even strike some that government emphasis on upgrading at this particular time is highly misplaced and that more attention should swing back to the problems of placement of the unemployed. From that point industry will train as it needs and people will advance insofar as the

occupational structures will allow. It would be useless to proceed on the assumption that occupational progressions will be changed, without proof to management that new efficiency will result.

This study intended to find special techniques which a broad spectrum of American industry might adopt to improve the skill levels of their employees. It found, rather, a wide variety of mostly traditional techniques operating in differing contexts (often with government sponsorship) and adjusted to suit the particular skill needs of the employer.

But other needs, less directly connected to skills training and discussed in greater detail in a later section, are becoming apparent. Managers, employee relations people, and demonstration project personnel appear to be increasingly aware of the shortcomings of one-shot skill improvement programs. Attention is turning more to the totality of the workplace. This stems from clear indications of worker discontent: productivity problems, absenteeism, turnover, behavioral difficulties, ever increasing inflationary wage demands, a younger and brighter worker who is spurning job and institutional loyalties of previous generations -- continuing even as jobs become more scarce.

It is the feeling of some thoughtful observers that when these problems become severe, industry's response will

be to avoid them and move toward even greater automation and less dependence on a stable workforce. In the opinion of some, increased automation is a laudable way both to lessen the employers' problems and to remove dead-end jobs from the market, forcing employees to seek more fulfilling work. Certainly greater money awards have been shown to have a limited effect on turnover and morale problems, even in high-paying industries.

Other options lie in improving the environment of the workplace. This broader view of upgrading requires at its root a change in management attitude toward the aspirations of its employees. Although it was not the mission of this project to study these softer concepts of upgrading, it was found that many of the problems cited above have been lessened by encouraging greater worker participation in meeting the goals of the company. This has depended essentially on communication, a two-way flow of ideas and information about how the company's product or service might more effectively be produced. This might call for more skill training. It might also call for extensive personnel management training for supervisors. It might call for a redefinition of management's relationship with organized labor. It might mean a change in process. It usually means increasing the worker's estimate of the value of his job. It calls for institutionalizing new ways that ideas can be exchanged within groups and between levels of

responsibility. Most of all, it means finding out what employees want and maximizing their potential for achievement consistent with the company's goals.

This broader approach to upgrading will call for a high level of cooperation between management and organized labor, with the Department of Labor programing sensitive to the needs of both. In the following passages, some suggestions for future activity are directed to all three groups. These possibilities briefly summarize some of the larger points in the body of the report, and especially in those made under management and unions, tend to be highly generalized. It is understood that thus presented, the possibilities resemble action many times urged on these groups, and there is often great difficulty in executing ambitious personnel practice change.

But the points are emphasized here to remind officials interested in upgrading that simple skill improvement programs should be regarded as only one step toward a broader response to the new and complex problems of the workplace.

Possibilities

For the U. S. Department of Labor:

While the initial efforts of the Department of

Labor to develop experimental special upgrading programs have shown some promise, it is not yet clear whether these activities can be extended to the broader approach outlined above. Even for experimentation this broader approach calls for consulting services far beyond the present capabilities of the Employment Service or other field agents of the Department. However, it is apparent that there is a need for innovative programing in this area and it is therefore appropriate that DOL continue its experimentation to learn if a wider role can evolve from the valuable experience of the demonstration projects. To assist the Department the following suggestions are offered:

- ▶ That the Department of Labor recognize that employers have traditionally offered skills training when necessary; that government should not assume that responsibility, but could provide assistance to only those workers unable to grasp opportunities available in existing structures.

- ▶ That the Department of Labor carefully construct the administrative plans for any new manpower legislation to ensure that the upgrading titles are not used to defray training costs traditionally absorbed by the company.

▶ That the Department of Labor establish an office dealing exclusively with employee upgrading to coordinate all Department programs, and that this unit develop solid lines of communication with other government agencies (HEW, HUD, OEO, DOD) which mount upgrading efforts. The Department, through this office, could manipulate emphasis on upgrading to respond to the exigencies of the economy.

▶ That the Department of Labor, if it intends to stay meaningfully involved in upgrading programs, begin to develop a broad base of expertise, probably through the employer services unit of the Employment Service, which would be available to meet a wide range of needs: skills training, communications skills, job restructuring, job enrichment, remedial education, human relations programs. It should be understood that the professionals possessing these skills will demand salaries beyond the normal wage structures of State Employment Services.

▶ That the continuation of the Employment Service's in-plant training experiments be encouraged as a vehicle for increasing the impact of ES on

employers as the first step in the development of ES professionalism on in-plant matters.

▶ That the Department of Labor develop closer links with both national and local civil rights compliance agencies which have created considerable impetus for special upgrading activity. The Department could increase substantially its upgrading operational in-plant presence by providing the technical services often required in eliminating discriminatory practices.

▶ That the Department of Labor pull together all the research materials available which relate employee attitude and performance to the environment in which he works -- thus providing a hard data base for future programming.

▶ That the Department of Labor, in cooperation with the business community, the universities, organized labor and other government agencies, mount educational programs to encourage management's thinking about the need for increasing the upward potentials of the workforce.

▶ That the Department of Labor, through its research monies and avenues of influence at

professional and engineering schools, foster greater attention in the curriculum to the human problems of the production process.

For Management:

One of the most important findings in this study is that managers almost unanimously are concerned about the new type of employee in the workplace. The new worker is much better educated than those traditionally hired, presents the image and behavior associated with the affluent youth culture, and is increasingly removed from the age and values of older workers. Or, conversely, he is much less educated than other employees, comes from a more deprived background, is more often from a minority group. Adjustments to these people are inevitable if managers are to continue to receive allegiance from the workforce.

As a suggestion for modifying personnel practices to more effectively harmonize with the ambitions and needs of new workers, the following are offered to management as possibilities for change:

- ▶ That management develop better and more frequent communication avenues which encourage effective two-way discussion regarding company affairs.

For example, meetings could take place regularly, off-line during working hours, and offer employees meaningful contact with a management official of importance and authority.

▶ That management, when faced with low morale and poor productivity, investigate the possibility of modifying the company's occupational structure and wage plans to provide increased career mobility, greater job satisfaction, and more equitable pay rewards for the workforce.

▶ That management give greater attention to the potentials of sophisticated fringe benefits such as the four-day work week, broader in-house training opportunity, profit sharing plans, and the muting of differences between hourly and salaried personnel by abolishing time clocks, preferred parking spaces and other separate facilities.

▶ That industry associations devote greater attention to the common manpower problems of member companies and encourage more innovative personnel practices within the industry through the development of manpower information systems and technical assistance services.

▶ That management increase in-house vocational counselling and career planning activities, along with improving orientation programs to stimulate employee aspirations and knowledge of jobs in the company, and to alert company officials about jobs desired by specific employees.

▶ That management take a deeper interest in the quality and direction of the secondary schools, which educate the future workforce, by participating more directly in curriculum planning, and taking a more active part in the vocational counselling process, to provide a realistic picture of anticipated industry skill needs.

For Organized Labor:

Labor unions in the United States have recently been subject to criticism, much of it unfair, from a number of sources -- from private officials and minority groups for perpetuating barriers to high level jobs for minorities, from young people who see them as a conservative social force, and from Administration officials seeking to stem the tide of inflation. The membership is also restive, and although specific complaints may not be articulated, their problems have been reflected in rank and file contract rejection and wildcat strikes.

It is probable that new dynamics operating in the trade union movement call for new leadership initiatives. Younger workers, who now comprise a significant body of many unions' membership, are increasingly estranged from older leadership and at odds with each other -- those wishing mainly to make as much money as possible and those searching for a rewarding way to earn a living. The old organizing battles and bitter strikes of the labor movement, and appeals for solidarity based on those efforts, cannot sustain labor's vitality for a generation of workers who have never walked a picket line.

While it is certain the bread and butter issues will continue to dominate union activity and demands, certain less articulated grievances might be uncovered and internal conflicts reconciled through some of the following moves:

- ▶ That unions can improve their service to their membership by expanding their own educational efforts and opening up more effective lines of communication between leadership and membership, around both contract and non contract issues. Such action may involve the enhancement of the shop steward's role as a communication link through improved steward training in interpersonal relations, and more creative use of communications forums such as local union meetings to more effectively respond to worker concerns.

- ▶ That unions demonstrate their concern for the career development of their members by directly sponsoring upgrading programs, using government or management funds if the leadership feels union funds are too limited.

- ▶ That craft unions, despite resistance from senior members, re-examine both entry level and content requirements of apprenticeship programs to determine whether they adequately reflect the needs of both the potential apprentice population and the industry he will serve.

- ▶ That unions ensure that all new members have an adequate knowledge of the career paths available to them both within and outside the bargaining unit by encouraging management to establish or improve worker orientation programs or by offering such orientation themselves, and insuring that the collective bargaining agreement graphically describes promotion progressions.

- ▶ That industrial unions presently attempting to organize the technical and white-collar occupations in their industries seek to build progression linkages to these areas from the blue-

collar ranks, thus broadening the career alternatives of the production workforce.

- ▶ That unions facing membership resistance to special entry programs for minority group workers mount special upgrading efforts for more senior members blocked from promotion by inadequate skills.

OVERVIEW

OVERVIEW

During the 1960's the primary thrust of both federally and privately supported manpower programs was directed toward providing the unemployed and hard to employ with the skills and attitudes needed to function productively in the American economy. At that time it seemed apparent to many thoughtful observers of manpower trends that pressure for special upgrading efforts would increase as a result of skill shortages and social pressures. The initial success of programs designed to prepare workers for entry level jobs encouraged the thinking of government manpower policy planners toward the possibility of mounting special upgrading efforts to assist these new workers in accelerating their upward job mobility.

Certain other forms of dysfunction in the workplace have increasingly concerned manpower planners and have broadened the focus of upgrading programs to include the entire workforce:

- An atmosphere of reaction by management and senior workers against expanding special programming for discrete groups of new employees.

- The changing nature of skills required to produce

the nation's output, calling for greater numbers of higher and lower skills, and fewer bridging skills in the middle.

- The low paying wage structure of many industries whose firms are unable to reward workers with income adequate to keep pace with inflationary pressures.
- The growing alienation of the American worker from his work, the breakdown in organizational loyalties, the weakened influence of traditional objects of respect, the growth of a counter culture, the momentum toward escapist behavior, and the continued polarization of groups -- white from black, old from young, rich from poor. Observers have attempted to relate these societal problems to the low level of satisfaction derived from most work.

The Needs

These broad problems, however, are not central to the day-to-day needs of management and labor -- the prime movers for any change in the American industrial opportunity structure.

In the course of discussions with management, labor and program officials, two basic reasons for managers to initiate an upgrading project for selected employees were uncovered:

- A severe need for higher skills which could not be satisfied by outside hiring.
- A need to revise training and promotional procedures to satisfy governmental requirements and community pressures for equal employment opportunity.

Management has other needs, of course, but they are far less convincingly solved by providing more upgrading opportunity. There is the need to increase productivity, lessen turnover, and improve product quality. There is the need to mitigate behavioral problems of absenteeism and lateness, poor discipline, low morale, and racial conflict on the job. There is a pressing need to better understand the younger worker. But when faced with these problems, managers usually respond by manipulating a wide range of factors -- generally involving tighter controls or technological change -- before attempting to deal with the basic causes of worker dissatisfaction.

Organized labor shares many of the problems of the company, especially those regarding compliance, productivity (as it relates to wage demands) and discipline problems which can disrupt internal union activity.

Many firms participating in special efforts to hire the disadvantaged were impressed with effective training and motivational techniques, such as orientation programs and sensitivity training, which were often integrated into

the company's personnel programs. The success of these efforts has led to limited management receptivity to outside assistance in solving personnel problems. Companies have used, sparingly to be sure, reimbursement monies to assist in meeting demonstrated skill needs, often thereby formalizing traditionally informal training programs.

However, most companies move to solve their problems without the assistance of outside agencies. Managers feel, and perhaps rightly so, that their organizational difficulties are extremely complex and do not lend themselves to simplistic analysis by individuals not familiar with the history, traditions and processes of the firm. There has been great resistance to any significant alteration of the firm's production process or structure.

Upgrading project officials complain of the limited results of their efforts and have identified the need for a broader approach to the problem. The attention to this wider concept of upgrading -- which basically calls for an environment of increased worker advancement and participation -- comes not only from these outside agencies and academicians. Frustrated employee relations people within the firm are aware of the problems and can offer solutions but are not, as one personnel official termed it "in the management loop," and their suggestions are often bypassed in favor of efficiency moves by engineers and accountants.

The inability of programs providing only slight skill increases to ameliorate the broader problems of the workplace has generated arguments for greater amplitude of thought about worker mobility. This trend, supported by personnel studies, emphasizes greater experimentation and utilization of communication and job enrichment techniques. This essentially means applying the good personnel practices which most business professionals are taught in their formal training but which get lost in responding to the exigencies of corporate operations.

Although in theory a broader approach is attractive, its implementation often calls for substantial organizational change. Management will not permit major change without economic justification and strong assurance that the production flow and profitability of the enterprise will be maintained or improved. And, except in crisis situations, few corporate officials have been sufficiently convinced to permit such experimentation.

Problems and Responses

This study called for the identification and review of a small number of unusual upgrading programs. It was able to expand its investigation to include twenty projects, twice the number originally proposed, but still extremely limited for development of broad conclusions. The staff has also drawn from its prior wide exposure to typical companies,

those without any singular innovative effort to upgrade employees, to assess the uniqueness of each target company's activity, and to make some general observations.

The problems facing the development and operation of special upgrading programs are far more apparent than are techniques and responses to overcoming these difficulties. Therefore, the casenotes in the following sections will emphasize those positive aspects of the reviewed projects which tended to overcome constraints, and taken as a whole, tend to provide an optimistic image of all programs observed. Although some innovative programs may encourage the development of permanent broad-based changes in the workplace, it must be emphasized that most projects probably will end with employers returning to traditional operations, and responding to skill needs as they occur.

The major constraints associated with broad change are dealt with in the following sections, together with some general responses and casenotes on specific programs observed in field reviews. The problems tend to interrelate and overlap, and it is quickly admitted that the broad categories are arbitrary. The individual differences of companies preclude the development of a single response or set of responses which will overcome all the constraints to the development of an upgrading program. Further, the amalgam of techniques that proved successful in one company does not seem transferable to another. The best and most lasting efforts are

not the discrete one-step upgrading programs, but those which aim toward creation of an environment of openness and opportunity. This environment derives from management's broad interest in the needs of its people. This attitude cannot be created through hard techniques, but it is hoped that the casenotes of specific experiences may guide program planners toward its evolution.

PROBLEMS AND CASENOTES

COMMUNICATIONS

Problem: Management and organized labor perceive little worker interest in greater upgrading opportunities, and believe that resources are available for those who wish to advance.

Management officials are fond of citing worker resistance to offers of special training. They also note that evidence from exit interviews, when conducted, points in no clear way toward the need for better promotional opportunity for the worker. Employee dissatisfaction, management feels, can be more easily traced to a myriad of other factors such as low wages, bad physical working conditions, poor supervision, and personal difficulties outside the job. The level of participation in tuition refund plans is low and the response is poor to any form of non-mandatory self-improvement program. The simple fact that workers so rarely voice their career aspirations discourages any management inclination toward improving opportunities.

Most union officials regard upgrading as much less critical than the substantial needs of expanding the union's jurisdiction, of participating in the grievance procedure, executing the contract, and planning for the next round of collective bargaining. In this connection, when workers have been polled on what matters most at the bargaining table, increased job opportunity, training options, and mobility are far down the list of needs.

While it is true that the worker does not agitate for more special opportunities to move ahead, the reasons for this are not clear. He may fear the responsibilities of a higher position, the pressures of working in a new group, or the possibility of failure. But his apparent lack of ambition may stem more from a poor understanding of his role in the production process and his ignorance of other occupations in the plant rather than a basic reluctance to get ahead. This is compounded by his feeling that neither management nor his union is particularly interested in his making any real effort to move out of his present position. First line supervisors often reinforce this attitude by their unwillingness to lose men to other departments as do shop stewards who are more concerned with contract enforcement than the individual needs of their constituents.

RESPONSE

The evidence from field reviews points unmistakably to the fact that when managers increase two-way communications with their workers they find a great deal of aspiration which has hitherto gone unarticulated. Some companies are hesitant to evoke increased aspiration for promotions they are unprepared to offer. But for those managers who are grappling with the undefined problems of the worker, and genuinely seeking to alleviate unstable working conditions, broad based efforts to listen to employees and blend their

interests into those of the company reap impressive rewards in productivity. Some companies, recognizing that the rigidities of their occupational structure prevent greater opportunity, have found that increasing internal communication has positive effects on worker productivity and morale, and may lead to modifications in process and job content earlier thought impossible. On the other hand, management's attempts to improve internal communications can be regarded as manipulative, and conditions made worse, if the results of company attention reveal only superficial concern for worker grievances.

The recent instances of rank and file rejection of contracts approved by union leadership have resulted in an effort to improve internal communications through periodic surveys of members' attitudes and efforts to sensitize local officials to the changing needs of the workforce. Better communications may lead to a clearer articulation of worker interest in special upgrading programs.

CASENOTES -- MANAGEMENT

- ⊙ Cincinnati Milacron's Personnel Development Center has become a forum for employee aspirations. In addition, the Center's staff have become vocal advocates of the need for programs and services designed to satisfy workers' career ambitions. The Center couples its assessment

function with a cafeteria of training programs ranging from simple blueprint reading to fully-paid cooperative technical education plans leading to degrees. Center officials emphasize the need for tailoring training formats to individual needs, and close contact has been established with all local educational entities in order to stay continually informed on location and quality of specific types of instruction. Building greater intercourse between the outside institutions and the company is a feature of the Center's activities. The unit also emphasizes its need to actively participate in personnel management decisions, and notes that its role is far more oriented to the growth needs of individuals than to worker grievances stemming from supervision or working conditions.

- Tektronix operates an after-hours Educational and Training Center which provides instruction in all professional and manual skills required by the company. Since the curriculum stems from desires and interests of the workers, it contains also a wide range of courses in the arts and humanities unrelated to the job. This broadened activity is largely in response

to the dearth of higher education facilities convenient to the plant. No grades are given at the Center, nor is promotion in any way promised, but the firm is cognizant of each student's participation. Enrollment is much greater in times of expansion and heightened business activity, when better jobs are available and promotional activity is accelerated. Over one-third of the employees from all departments in the company attend the free off-hours school. Families of employees are also encouraged to participate.

- Several airlines have developed similar management potential identification programs. Supervisors recommend their subordinates for enrollment in a problem-solving and leadership techniques course conducted by a central training staff. Although the actual promotion for the individual may be a year or two away, this course serves the dual purpose of exposing the employee to the skills he will need for future assignments, and additionally permits management to acquire a more detailed picture of the employee's capabilities. Supervisors are informed that subordinate development is an important part of their job and that assess-

ment of their performance as managers will be based, in part, on the success of the people who passed through their department.

- A career mapping system has been developed by the Western Regional Office of the Internal Revenue Service. All employees receive the guides to the system which describe major job clusters, chart the career alternatives, outline qualifications needed for advancement from one job level or progression to another, explain training resources available both within and outside the organization, and instruct employees on procedures for applying for special training. These easy-to-read guides are an important component of initial orientation activities and support the on-going personnel development work of the supervisors. Hughes Tool's contract with the Steelworkers contains graphic descriptions of all departmental progressions, the physical location of each specific job within each labor grade, and the priorities of consideration for filling each job vacancy.

- As an outgrowth of its hard core hiring efforts, the Plaza Hotel in New York has expanded its counselling activities to the entire workforce, and has stationed counselors in the

employees' cafeteria during the lunch hour. Making these job counselors easily accessible to the work force achieves much greater penetration than would the hackneyed "open door policy." The counselors, who can be more sympathetic to a worker's needs and problems than a busy personnel executive, have complete listings of all job openings and attempt to satisfy the employees' occupational desires either through placement, or referral to a company or outside training program.

- Tabulated indices of employee aspirations, such as those compiled by Cincinnati Milacron and Macy's in New York, serve to heighten management awareness of the occupational desires of the work force. These systems rely on periodic interviews between supervisors and employees in which each worker notes the kind of job or departmental transfer he would like. In large firms such as these, interview data is computer processed and used to facilitate placement and, in the case of Milacron, the development of training programs.
- Many companies provide regular off-line meetings in which employees can interchange ideas with their supervisors about job content, the need

for process change or other production matters. The agenda and frequency of such meetings are generally left as flexible as possible, as at Precision Castparts and Tektronix. Texas Instruments, which formally allocates one hour each quarter, indicates that meetings are held as the exigencies of production require and a recent internal survey has indicated a desire for more and longer departmental meetings.

- The Area Representative system at Tektronix each month brings employee concerns to the attention of top management and provides a vehicle for communications down from top officials. Geographic groupings of 12 to 35 employees elect a representative who holds monthly off-line meetings with his constituency and carries to a companywide forum inquiries on all aspects of the firm's operations, services, products, facilities, and community relations. The minutes of these meetings are published and distributed to all employees -- whose interest in corporate affairs is heightened by the company's profit sharing plan. Area Reps also schedule guest speakers for their people from both within and outside the company, arrange tours through other departments and serve as advisors on company benefits. The Area Rep

does not serve as an advocate or ombudsman to solve personal grievances; these are handled in a separate review system by the first-line supervisor.

- Attitude surveys are sometimes used as a management technique to keep abreast of the opinions of the workforce. Texas Instruments plans to reinstate a sampling program with emphasis on productivity, work content and plant communications rather than on more personal grievances which they feel can be more effectively handled by supervisory action.

- Crouse-Hinds in Syracuse mails personal letters to each worker's home informing him of all new training opportunities. The company found that this technique exerted a far more positive response than bulletin board postings because it was individually directed and often brought uxorial pressure to bear on the decision-making process.

- Top management at Georgia Kraft Company held individual meetings with selected black workers to encourage their participation in a special after-hours remedial education program. Since no immediate promotion could be offered due

to the plant's low turnover, workers strongly resisted training and voiced fear of eventual promotion into traditionally all-white departments. By demonstrating a personal interest in the career opportunities of these men, management succeeded in overcoming initial resistance.

- Precision Castparts found that supervisors must be sensitized to the need for subordinate development. The company has launched a series of periodic meetings between first-line supervisors and top management where the necessity for this activity is underlined. Newark's High Intensity Training (HIT) program found that client management officials often insisted that installation of the full package be preceded by sensitivity training sessions for first-line supervisors. During a major upgrading undertaking for a foundry, the Skills Upgrading in Cleveland program found that supervisors were as gravid with unexpressed ideas as the workers, and its first major step was to encourage thoughts about bettering the workplace by middle and first-line management.

● Erosion of managerial privilege may stem from greater attention to worker needs. It appears that gradual institution of greater degrees of participation will call for small changes such as breaking down distinctions between management and worker lunchrooms, parking areas, daily time records, and other less tangible boundaries separating salaried and hourly workers. Profit sharing raises many questions beyond the range of the study, but in one reviewed instance (Tektronix) clearly has had a major impact on workers' attitude toward the job.

● Although no evidence was found that firms adopted the full HIT program on an on-going basis, many companies selected those components of the program they found useful as part of their regular personnel program. For example, the effectiveness of sessions on the workers' role in the production process has triggered entry-level orientation programs in some companies, and in other cases management has pirated the HIT trainer for continuing programs.

CASENOTES -- ORGANIZED LABOR

● Membership surveys in some unions have disclosed

little interest in upgrading when other issues are also up for discussion, but the hotel trades unions in New York polled their membership on that subject alone and found tremendous response. The hotel unions have parlayed such response into management agreement to contribute (\$1 per man per month) to a training fund which will be used for upgrading and making transferable the skills of current employees.

- ⊛ Several unions have national on-the-job training contracts under the Manpower Development and Training Act (MDTA), with provisions for upgrading which will assist employers in moving low skill workers over hurdles presented by new technology, or with any retraining need. Although the programs supported by the International Union of Electrical Workers (IUE) are operated by management, the union publicizes the program through the union newspapers, and by visits of district coordinators to local meetings and to the meetings of the union's human relations committee. Through these marketing activities, IUE heightens worker awareness of the union's interest in upgrading, and encourages local leaders to seek installation of special programs.

- The union "buddy system," fostered by the Human Resources Development Institute of the AFL-CIO, has upgrading implications because it gives the union a mechanism for new employee orientation and provides a listening post for employee aspirations that the shop steward is unlikely to have time or ability to provide.

CASENOTES -- OUTSIDE AGENCIES

- The Labor Department's tri-city HIT demonstration effort often found that meeting the problems of low skill workers meant that managers and first-level supervisors had to be involved in the training in order to convince them of its validity and need, and that worker interest was spurred when greater management participation was evident.
- Staff members of most special upgrading programs, especially those officials conducting demonstration projects, have noted that these programs have spurred great interest in non-participating workers and evoked previously unarticulated interest in training and promotional opportunities. This should provide a wedge for continuing programing, but too often the firm is unable to proceed with its

own resources after the agency departs and the potential for broadened effort is lost.

- The Labor Education Advancement Project tries to increase worker utilization of tuition refund programs by alerting employees in numerous plants, via paid part-time co-worker counselors, to all institutional education possibilities in the area and specifically those offering subjects of interest to the worker. The relationship of this outside training to promotion and fulfillment in the plant is unclear (management has only to agree to the program's operation), however, and its major impact, especially in the economic downturn, appears to be general self-betterment.

- On the basis of its successful training operation, the Transportation Opportunity Program (TOP) in Los Angeles has been attempting to convince regional Teamster negotiators that training contributions for off-site truck driver training should be part of national contracts. The effort has not taken root but its eventual success is predicted by TOP officials.

STRUCTURE

Problem: Production processes have evolved to best deliver goods and services. Occupational structures and work rules have solidified around these processes and inhibit extraordinary movement of nonsupervisory people.

Each industry has developed a process or series of processes which will, it is felt, effectively turn out the product or service. In large measure this process determines the patterns of jobs available, and management, as a matter of course, trains people to fill these jobs as openings occur.

It is an unfortunate fact that many American workers are employed in industries with compressed occupational structures which provide limited opportunity for meaningful upgrading. Opportunities for large scale upward mobility often do not exist. This problem is complicated by a tendency of new technology to make things simpler, thus breaking down skill levels and further flattening occupational structures. Technological change has upgraded the occupational content of maintenance jobs, but often the skills necessary to perform these tasks are beyond the limited experience of the bulk of the production workforce. Also, newly imposed requirements

for higher education in first-line management and technical positions cut off such jobs from those production workers with limited educational backgrounds.

Even if a company wanted to alter significantly certain job structures, its action would be hindered by the vested interests of unions and more senior workers. Changing these structures is almost impossible without causing cataclysmic consequences, or so most employers and union leaders believe.

Once the nature of the upgrading process has been defined by the industrial process, the question of who benefits, if anyone, becomes paramount. Seniority cuts both ways on upgrading. It can mean that job progressions, if they exist, will automatically be available to junior workers. On the other hand, seniority freezes the structure so that there is little flexibility to provide extraordinary movement to anyone within the structure.

Job security is at the cornerstone of trade union activity and labor leaders ordinarily challenge any attempt to manipulate the jobs where the benefit to their membership is unclear.

RESPONSE

Broad changes in the job structure most often occur when industry is faced with extraordinary pressure. Structural

changes occur in small, discrete ways to accommodate technological change but even here management often finds that eliminating a man's job is easier than changing it. In highly unionized environments, broad changes generally take place as a result of three forces: critical process problems, major skill needs, or compliance requirements. Non-unionized organizations, such as the white collar industries, have more flexibility for change because seniority is a less important factor for promotions and job progressions are not fixed by contract.

Unions usually respond to the prospect of structural change with insistence that members rights be protected, and in those isolated cases where they see their members' needs served, they have actively pursued modifications of job content and promotional sequences.

Outside organizations, such as government agencies or private consultants, have attempted to change structures using job task analysis or job restructuring techniques, but their effectiveness has been in direct proportion to the amount of pressure the firm is under to improve its productivity, or to EEOC or OFCC directives regarding discriminatory practices. They have been far more successful at circumventing rather than changing the structure.

CASENOTES -- MANAGEMENT

- One firm, faced with organizing drives and slumping sales, learned from employees of considerable discontent with job rating procedures. Workers were asked to write descriptions of their duties. These descriptions were then analyzed by supervisors, personnel and management officials using a 12-factor rating system. Although the basic wage plan was not changed, gradations within each pay classification were developed to respond to the variations in job content. New job descriptions were written and lines of progression were developed within a team format. Men whose jobs were formerly overrated were not reduced in pay, but their replacements will operate at the new levels.

- A Cleveland foundry, experiencing lagging productivity, told the Mayor's office of plans to shut down its local facility. The problem was referred to the Skills Upgrading in Cleveland project which convinced management to undertake an intensive analysis of the production process and occupational structure. This study, financed by both the company and SUIC, has resulted in a major reorganization of the occupational

structure into seven basic skill clusters. A training curriculum for each cluster has been developed, and company supervisors are receiving instruction in the use of the materials.

- Because of changes in technology, Signal Oil's Houston refinery was left with a group of marginally productive unskilled laborers who were protected from layoff by seniority. The laborer position, which was not linked to a progression structure, was dropped in favor of a refinery trainee position which is now the first step in a plant-wide occupational progression. Through remedial education and skills training the former laborers were employed as Operators and Craftsmen Helpers. In an effort to aid Helpers in gaining top skill experience, management negotiated a new intermediary skilled position to handle periodic peak-load maintenance operations. When equipment needs overhaul, the Helpers can bid on these Craftsman II positions. During this temporary operation, they receive full Craftsman pay.

- On the basis of recent court decisions regarding discriminatory practices in industry, many southern employers have been forced to restructure and integrate separate career lines formerly based on race. In one paper mill, the previously all-black woodyard progression which had no educational requirements, was structured into the regular plant job ladder which required a tenth-grade education. Semi-literate blacks working in the woodyard were assisted in improving their reading and mathematical skills through an off-hours remedial program which qualified them for promotion into the plant progression. Movement into this new sequence involved no loss of pay or seniority for these men.

- Firms with great awareness of job enrichment techniques have striven to maximize the individual's freedom from structure and permit the worker to operate "by objectives." For example, Tektronix emphasizes unit construction, thus freeing employees from the rigidities of assembly line production and encouraging them to use their own judgment in building products according to a broad range of process techniques as long as quality and time standards are met. Texas Instruments finds that this approach is enhanced by heavy

injections of classroom training which provide the worker with the skills necessary to best structure his job.

- Cincinnati Milacron dropped rigid apprenticeship training programs in favor of a more flexible progression of job categories linked to promotional practices which would reward workers as their ability improved. The company found that strict apprenticeship training formats frequently did not reflect the company's skill needs in view of constantly changing technical requirements.

CASENOTES -- ORGANIZED LABOR

- A group of hotel unions bargained for and won rights to a management-contribution fund which will be used partially for training non-white-collar personnel for front office and administrative occupations. Such training should provide new career paths for employees presently in dead-end departments.
- Skilled trade departments of industrial unions such as the United Autoworkers have vigorously fought for the training which would allow craftsmen to

progress into computer-related activities now performed by white-collar workers. This struggle has been paralleled also by efforts to bridge into computer functions through intensified organizing drives in the salaried ranks.

- The health services industry has been active in re-examining its job structure in response to the critical shortage of trained medical personnel. The Health Careers Program of the American Federation of State, County and Municipal Employees (AFSCME), with the financial assistance of the Department of Labor, provided an object lesson for the administrators of three hospitals by utilizing a modified version of job task analysis to restructure and enrich the content of several paraprofessional jobs, and by supporting this effort with formal training, to assist their members to move into these new or enriched jobs.

- Two maritime unions, the skills of one of which dovetails into the other, agreed to allow transfers across unions to achieve promotion without loss of seniority or pension rights. However, in most cases union jurisdictional boundaries more often serve to block the upward mobility of workers in lower skill trades.

- Some craft unions have substantially shortened the time required for completion of apprentice programs. This structural change was made in an effort to overcome the decreasing interest in the skilled trades and impatience on the part of younger workers with the long indenture periods.

CASENOTES -- OUTSIDE AGENCIES

- The trucking industry in Los Angeles is characterized by a rigidly enforced jurisdictional and seniority structure. Warehousemen do not often bid on driver openings because they would lose seniority in transferring to the drivers local, and employers do not encourage such transfers. The Transportation Opportunity Program provides a mechanism for skirting this structural problem by offering off-hours training in driver skills for men in the industry. One third of the trainees in the program have been warehouse workers. However, because of the constraints of transferring within their own firms, most program graduates move to other companies in order to enter driver progressions. This program has appealed more to low seniority minority group workers who lose little by changing jobs.

- Job Task Analysis, as used in the three-city demonstration of the HIT model, calls for the identification and determination of performance criteria, worker knowledge and skill requirements. In several cases a by-product of the application of the job analysis technique led to the redefinition of specific job content and to some significant job enhancement. However, the technique appears to have had little impact on the entire occupational structure or to result in meaningful new job ladders.

- The Syracuse Upgrading Project staff endeavored to apply the principles of job restructuring developed by the Industrial Services Division of the United States Training and Employment Service. This approach attempted to treat each individual job as part of a larger system with the aim of developing career lattices which provide vertical, horizontal and diagonal mobility from each occupational level. While job analysis provided the information concerning the logical relationships of jobs, the project was unable to accomplish job restructuring because of the difficulty of securing joint management/union approval for such changes.

ATTITUDE

Problem: Employers, unions and workers are rejecting further participation in social programing efforts unless a strong economic rationale is evident.

In the past several years, American business has been forced to consider factors completely unrelated to its traditional concern with profits. The emergence of racial pressures in the mid-60's caused revolutionary changes in hiring offices throughout the country as industry employed more minority group workers and lowered standards to meet peak production demands. Federal interest in the racial composition of the whole workforce also prompted changes in historic promotion patterns, and more consideration was given to those formerly excluded from better jobs.

Added to this has been the increased militance of environmentalists, consumer protection advocates and women's rights groups buffeting the manager with demands ranging from clean rivers to the rights of women to wear pantsuits.

These immediate external pressures increasingly consume more of the manager's time during a period of economic downturn when his first responsibility, increasing

profits, has demanded ever greater attention. The timing is poor to discuss personnel development.

Dim realizations of the needs for special upgrading programs reside mostly in the employee relations departments or personnel offices which are normally outside the loop of management decision-making. Managers are in no mood to play eleemosynary games with job structures for the sake of philosophical need. Unions kept a fairly tight lid on senior worker backlash during the hard core hiring period but can be expected to vigorously challenge manipulation of jobs for an unproven concept. Everyone is skeptical of yet another government program.

Even when the need for change is identified, business organizations have difficulty in effecting major change calling for company-wide concurrence. Some departments in the company can be quite obstructionist, and this process is even more complex when agreement must be reached with a strong union.

There is, at the problem's root, the absence of a replicable model of an opportunity environment which can be transferred from company to company as a demonstration of the long range benefits and payouts of offering workers greater potentials for growth and participation.

Managers want proof of the efficacy of change before the change can take place. Even when the techniques are available to create openness, participation and opportunity in the workplace, those wishing meaningfully to change the employment structure are hampered by a paucity of information correlating the worker's discontent with his lack of mobility.

RESPONSE

One of the basic difficulties faced in marketing special upgrading programs has been in breaking down the target company's resistance to internal change, especially in light of the pressures mentioned above. The marketing entity -- a person or department within the firm, a special union-sponsored activity, or an outside agency -- has found that it must be extremely well advised on the softest spots in management resistance, and prepared to argue with as much support data as possible that the particular company's needs would be served by a program giving workers greater opportunity. Most outside agencies have found that their marketing efforts were stalled until they were able to offer a range of engineering, management and training skills which facilitated quick adaptation of these programs to the varying needs of each firm.

The first crucial breakthrough typically has been a small, discrete training program involving skills,

remedial education or interpersonal relations. But program people emphasize that the impact of these ad hoc programs seems to be of a shortrun nature, and perhaps even harmful, if not used as a wedge to create a broader based personnel development program.

Except in crisis situations, changes in personnel structure and mobility tend to be instituted slowly, with each change preceded by acceptance of earlier modifications. Even those firms with broad based approaches to maximizing opportunity of all workers have reached this condition after a lengthy process of evolution and of proving that workers can accept greater and greater measures of participation.

CASENOTES -- MANAGEMENT

- Those firms identifying situations that need relatively quick change find that initial moves are met with resistance and skepticism. Those most responsible for bringing about new communications or opportunity structures must be prepared for little success in the short run, or until the employees become accustomed to the company's sincerity in bettering the work environment.

- Departments within the company have often provided the rationale for upgrading programs. At Cincinnati Milacron the Personnel Development Center is a constant advocate of the need to increase mobility and training for the work force. The staff of the industrial relations department at Texas Instruments has been allowed to enrich the work environment in several departments and continually strives to broaden the success of these efforts.
- Several companies, such as Signal Oil and Georgia Kraft, have found that the training programs for discrete groups of employees have resulted in demands by more senior workers for similar opportunities. Signal opened the skills training portion of its program to all employees, and the HIT models ran second and third cycles of their programs, in some cases to satisfy senior workers. The National Alliance of Businessmen (NAB) JOBS '70 upgrading program, responding to managerial resistance to another program aimed at minority groups, widened its regulations to permit training of non-target-group employees.

- In an effort to determine the economic benefits of changing its personnel structures and practices, Pacific Telephone and Telegraph has established a special organizational activity called the Human Relations Center whose major function is to develop innovated ideas to overcome personnel problems, assist in program implementation and evaluate results in economic terms.

CASENOTES -- UNIONS

- Unions can exert a positive rather than a hindering force on management decisions to proceed with special programming. The IUE and the United Autoworkers, with contractual provisions for rank and file tuition refund and a demonstrated interest in training with their government OJT contracts, have accelerated decisions to mount training activities. A positive union attitude toward the job improvement of its members can foster creation of programs rather than present obstacles.
- A basic tenet of the labor movement is the equal treatment of workers. Many unions interested

in helping minority groups become economically self-sufficient through entry level training programs have wished also to increase opportunities for their more senior members. The IUE and TOP upgrading programs grew out of entry level training which had created a desire for training among senior workers.

- Those unions which have recognized the need for special upgrading efforts have sometimes found that a demonstration of program effectiveness is the only way to convince management of the need for an ongoing personnel development program. The Hotel Trades Council preceded their request for a training fund by operating several government sponsored upgrading programs. The Hospital Careers Program of AFSCME was undertaken by the union as a demonstration to management that such a program was both possible and economical, with the understanding that if the program proved itself management would consider its adoption as part of the hospitals' training program.

- Black worker factions within plants and local

unions have clearly reacted to the lack of mobility and promotional opportunity with wildcat strikes and disruptive splintering of union solidarity. The impact of these movements has not been studied in this project, but the factions' grievances appear to have caught the attention of governmental compliance agencies and may have indirectly achieved modifications in both the plant and union internal mobility structure.

CASENOTES -- OUTSIDE AGENCIES

- In an attempt to overcome management resistance to still another governmental program, both the HIT projects and the Syracuse Upgrading Project established their operational headquarters away from government buildings. These programs, along with NAB chapters, found their marketing effort enhanced by personnel with greater industrial experience than are ordinarily found in public agencies.
- To further soften management resistance, these agencies found that often they had to respond to management's articulated train-

ing needs despite the lack of an immediate upgrading impact. Those outside agencies marketing services found that in order to meet the needs of prospective clients, they were required either to hire people with engineering, management and human relations skills or buy the services of skilled consultants. The Syracuse and Newark projects used technical and human relations consultants effectively while Cleveland, as it moved toward more ambitious programing, staffed-up with professionals from industry and the behavioral sciences.

- Those agencies marketing reimbursement-type programs have found it difficult to respond to requests by management for technical assistance needed to overcome structural or attitudinal problems because they were not properly staffed for these activities.
- Outside agencies have attempted to root their appeals for program participation by the company on economic arguments regarding needed skills and improved productivity, as opposed to social needs or worker interests. However, strong appeals to the manager's

altruism are free of the need to produce hard economic arguments for costs effectiveness.

- An effort to correlate job mobility with worker satisfaction has been undertaken by Skills Upgrading in Cleveland and will soon be available. This kind of empirical evidence of the value of upgrading should be brought together with British studies in this area and with the work of Rensis Likert at the R. G. Barry Company directed toward the development of a human resources accounting system.

- The Labor Education Advancement Project has attempted to amplify the need for greater management attention to worker education with a pilot effort to increase worker participation in outside schooling. It is hoped that this program will encourage management to more systematically reward those workers who show initiative.

- The litigation of the EEOC, such as in the Crown Zellerbach case, and the threat or actual

withdrawal of government contracts by the OFCC have often provided the necessary motivation for companies to consider special upgrading efforts designed to develop a better racial balance within the workforce. EEOC has a technical assistance wing, but the agency takes the position that management should develop the techniques to upgrade minority group employees. It has been found in many cases that problems inhibiting the development of minority upgrading programs fade in the face of impending litigation.

COST

Problem: Management and organized labor often cannot afford to allocate time and money for the development of special upgrading programs.

Management, even when persuaded of the need for special training and upgrading efforts, usually finds far more pressing demands for the firm's financial and staff resources. Staff time to carry out extensive preparatory work for new programs is sharply limited, and few firms, especially in today's economic climate, feel that return on the investment in organizing, conducting, and perhaps paying trainees is sufficient to proceed.

Many firms, particularly smaller ones, simply do not have the money required to support loss of productive time for trainees, or purchase training materials. Marginally profitable enterprises unfortunately do not have the necessary resources to develop applications for government assistance aimed at relieving this very condition. And larger companies do not wish to make major investments in staff and facilities until convinced that the need is more than transitory. In addition, many firms

do not see government funds as an appropriate mechanism for establishing such programs, both because of their reaction against taking direct government subsidy and a reluctance to enmesh themselves in the bureaucratic tangle of governmental procedures.

Labor unions' resources normally are overtaxed in meeting the immediate demands of their membership on the one hand, and in attempting to expand jurisdictions on the other. Their financial and staff resources are not great, particularly on the local level, and most union leaders feel that their limited resources are better spent on maintaining and improving the bread and butter items much more clearly sought by membership than in special upgrading opportunities.

With the exception of very ambitious employees, workers have consistently demonstrated a reluctance to pay for skills training and remedial education programs. For the most part, they believe that instruction in job related skills should take place on company time.

Tuition refund programs are becoming increasingly available to the entire workforce, but the practice of reimbursement upon completion of courses burdens the employee with initial cash outlays which are beyond his means.

Uncertainties created by downswings in the economy have restrained management and labor's ability to plan special programs. Such uncertainty not only prevents management from making meaningful manpower projections, but dampens the initiative of decision makers in undertaking innovative programs.

RESPONSE

Economic constraints to providing more worker opportunity are most easily overcome by showing employers and unions it will cost them little or nothing to participate. Government agencies, striving to aid the underemployed, provide management and unions with the money and services which make the programs as economically painless and as easily administered as possible. However, the difficulty experienced in marketing both the monetary incentives and free training and consultative services suggests that either the incentives and/or services are defective or the economic cost problems are not at the center of management reluctance to participate in such programs. Of course, the economic climate in which most of the government efforts have functioned over the last year and a half has not been conducive to management's acceptance of such programs. Several efforts under way during that time have been considerably reduced or

scrapped entirely, due to the cautionary mood in the economy.

Companies seem to allocate their own resources when the need is clearly defined and outside funds either are not available, the company is not aware of their availability, or there is a philosophical position on the part of management not to accept such training funds.

Workers are far more inclined to participate in training programs which are held on company time and paid for completely by the company.

CASENOTES -- MANAGEMENT

- Small firms with training needs and limited resources have been more easily sold on training service packages offered by Department of Labor demonstration projects than on plans offering only reimbursement for in-house costs. Many of the most enthusiastic users of the HIT model, the Syracuse Upgrading Project, and TOP have been firms without training establishments or experience.

- Small employers have shown much less interest in using direct money subsidies, those unaccompanied by a service, because of the greater

front-end expense to cover proposal writing and initial staffing. These subsidy programs also present the small firm with the possibility of a formalized training structure which it will be unable to support once government money is withdrawn.

- Larger companies, with in-house training capability, tend to be much more attuned to the direct reimbursement plans because of their experience with government contracting, their familiarity with government accounting and monitoring procedures, and confidence that the firm can best develop a program suited to its own peculiar needs.

- Management officials slow to accept government funds for training grow more receptive when the funds are marketed as needed compensation for the failure of other public institutions such as the school system. Texas Instruments, highly persuaded by this argument, is so dissatisfied with the reading levels and basic education of new employees educated in the local schools that it is presently seeking public funding to establish its own high school

to better prepare workers.

- Tektronix, like a small number of other firms, seeks to avoid the discouraging requirement that employees make the initial outlays in tuition refund programs. It plans to pay the school costs, deduct the expense in small increments from the student's paycheck, and then refund all or that portion of the tuition which is returnable under the guidelines upon course completion.
- When a discrete group of nonproductive employees protected from layoff or dismissal can be identified, as at Signal Oil, there seems little difficulty in selling top management on the economic justification for special training.
- Many users of the HIT model, such as Adolph Gottscho, Inc. in Newark, accepted the program much more for its human relations components than for skills because the "softer" techniques to increase productivity were beyond the range of the firm's training resources.
- At a time when its work load was expanding and turnover among its newer employees increasing,

Avondale Shipyards contracted for a NAB JOBS '70 upgrading contract. The additional money provided by this contract assisted the company in providing six to eight weeks of intensive off-line classroom instruction for the workers. The company was able to formalize and expand traditional training activities, reducing by half the training periods for top-rated mechanics.

CASENOTES -- UNIONS

- Unions such as the Hotel Trades Council which recognize the need for special skills upgrading programs have used the collective bargaining process to put pressure on management to establish and contribute to a training fund designed to upgrade the rank and file.

- The International Union of Electrical Workers has found that its offer of financial and administrative assistance, via its national MDTA-OJT contract, to employers with skill needs has had a marked positive effect on numerous firms' inclination to establish special programs for existing employees. Although the

reimbursements are not large, the program appears attractive to companies as a device to improve relations with locals through a government program requiring minimal outside monitoring.

CASENOTES -- OUTSIDE AGENCIES

- The Newark ITS project has found during the period of economic decline that employers are far more interested in the motivational training, such as communication skills and supervisory training, than they are in the skills training component. By providing such services the program is able to maintain an important operating base in a period of declining skill needs.

- The Syracuse Chapter of the National Tool, Die and Precision Machining Association, through the Syracuse Upgrading Project, arranged a training program in welding skills for the workers in the Chapter's smaller member firms. Although these firms had on hand or could secure welding equipment, they did not have a need for a full-time welder. Nor could one

individual firm afford to develop a training program. But by acting in consortium they were able to send one man from each shop to the training center.

METHODOLOGY

METHODOLOGY

Although library research was helpful, this report was based heavily on field interviews with people interested in or associated with numerous ongoing or completed programs designed to upgrade non-supervisory workers. Those articles and books which were of interest are listed in the bibliography.

This study was conducted in four major phases: Instrument Design, Program Identification, Sample Selection and Field Visits.

INSTRUMENT DESIGN

Several forms were designed for use by the project staff in collecting and organizing data. The forms, listed below, were included in the first monthly report:

- Identifying Face Sheet
- Program Selection Factors
- Document Identification Form
- Personal Contact Log
- Abstract and Interview Findings
- Interview Outline

Program Identification

During the course of the study over 100 special programs were identified which involved upgrading. Although the staff had immediate knowledge of a sufficient number of programs to satisfy the terms of the contract (8 to 10), it was felt that an intensive program identification effort would give the broadest possible base for selecting a sample. The programs ranged in scope and size from a JOBS '70 contract to provide skills training for one employee to a company-wide educational and training center voluntarily attended by over a third of the employees from all departments. (A complete list of all non-sample programs identified is included as Appendix A.)

The list of programs was compiled from the following sources:

- Labor Department Officials: Appropriate officials from various offices were contacted and their advice solicited.
- E. F. Shelley and Company: Files from two previous research studies in the manpower field: Private Industry and the Disadvantaged Worker and Climbing the Job Ladder: A Study of Employee Advancement in Eleven Industries. These files were examined and programs were identified.

- Persons and Companies who had requested copies of the report Climbing the Job Ladder: It was thought that their interest in the report might indicate an involvement or a knowledge of an upgrading program.
- Department of Labor Library: A complete review was conducted both to identify upgrading projects and appropriate literature.
- CAMPS proposals: These proposals from the 50 states were scanned to locate potential upgrading projects.
- Current literature: A search of all appropriate books and periodicals was conducted by the staff, but unfortunately the literature in this particular subject area is rather scant.
- Referrals from company officials who were not currently operating programs, but who knew of programs at other companies.
- Random spot checks, without prior knowledge of any particular upgrading effort, of companies whose geographic locations and industrial classifications were needed to round out the sample.

As the various efforts were identified, the staff contacted company or program officials by telephone. The

purpose of these contacts was to accumulate enough information about the project to: a) complete the Program Selection Factors forms; b) provide a base of information which would permit a determination as to whether the project should be part of sample; and c) determine the level of cooperation that could be expected from the project or company.

Sample Selection

On the basis of the above activities a number of programs were selected for inclusion in the sample and were submitted for Department of Labor approval. It was felt that the sample should contain a mix of programs in which the following conditions would be represented:

- Training Techniques
 - Skills (Industrial/White Collar)
 - Remedial Education
 - Interpersonal Development
- Non-Training Techniques
 - Communications
 - Job Restructuring
 - Job Enrichment
 - Motivational Techniques
- Geographic Areas
 - Northeast
 - Midwest
 - Southeast
 - Southwest
 - Far West
 - Rural
 - Urban

-- Sponsorship
Government (JOBS '70, Option B/ MDTA-OJT/R&D)
Association
Foundation
Company
Union

As the charts at the conclusion of this chapter indicate, all of these conditions were represented in the sample.

Although the contract called for only 8 to 10 programs to be studied in depth, it became evident that a larger sample would be more meaningful and would provide a better mix of program types according to funding source, structure of training, occupation and industry, and size and length of the training program. The staff, therefore, visited a total of 20 programs at little additional expense by dividing the sample into geographical areas and scheduling visits to provide maximum use of staff time and travel allocations. Several visits were made in the New York area at small cost. (See chart on page 85 for sample project characteristics.) A total of 172 people were contacted during the study. These included 86 management officials, 27 government officials, 13 union leaders, 24 training consultants and 22 other consultants.

During the field work, data was collected on each of the 20 programs. The general areas of concentration in these interviews were motivation (why the company became

involved, as well as why the employees participated in the program), planning, information on trainees, selection of trainees, program components, and program outcomes. (A copy of the interview outline indicating the specific questions asked is included as Appendix B.)

Descriptions of the sample programs are attached as Appendix C.

SAMPLE PROGRAM CHARACTERISTICS

COMPANY OR PROGRAM	INDUSTRY	UNION	AREA	SIZE	MAJOR NEED	MAJOR TECHNIQUE	FUNDING
Industrial Training Svc. Pottscho Blue Cross-Blue Shield Skills Upgrading in Cleveland	multi imprinting Insurance	N/A Yes Yes	NE NE NE	N/A 250	Research/Demon. Productivity Skill	HIT HIT HIT	DOL DOL DOL
Skills Upgrading, Inc. Syracuse Upgrading Project Carrier Air Conditioning Crouse-Hinds	multi metalworking metalworking metalworking	N/A N/A Yes Yes	MW MA NE NE NE	N/A N/A 6100 2650	Research/Demon. Research/Demon. Skill/Compliance/ Stem Turnover/ Compliance Skill	HIT HIT Inst. Skill Training Inst. Skill Training Inst. Skill Training	DOL ECL DCL DCL DCL
Syracuse Metal Mech. Training Incentives Payment Program Labor Education Project Transportation Opportunity Program	metalworking multi multi trucking	No N/A N/A N/A	NE NE NE FW	30 N/A varies varies	Skill Increased Wages Personal Dev. Compliance/ Anti-Backlash Skill Skill	Inst. Skill Training Reimbursement Peer Counselors	DOL DOL DOL
Int'l Union of Electrical Workers Hotel Trades Council Avondale Shipyard	electrical/ electronics hotel trades shipbuilding	N/A N/A No	NE NE S	varies 25,000 9,500	Skill Skill/Com- pliance/Stem Turnover Personnel Dev.	Inst. Skill Training Reimbursement to Employer Inst. Skill Training In-plant Skill Trng.	DOL-HEK DCL Mgt. '70 JOBS '70
Internal Revenue Service- Western Region Cincinnati Milacron Tektronix, Inc. Precision Castparts	government machinery testing equip. foundry	N/A No No No	FW MW FW FW	6,000 8,000 7,500 590	Personnel Dev. Personnel Dev. Personnel Dev. Productivity	Communications Communications Communications Job Analysis/Enrich/ Restruct./Comm. Communications	Internal Internal Internal Internal
Texas Instruments Signal Oil Langley Tool Company	electronics oil refining drilling equip	No Yes Yes	SW SW SW	48,000 500 4,000	Personnel Dev. Productivity Compliance	Communications Remedial Training In-plant Skill Trng/ Remedial Training	Internal Internal JOBS '70 Internal Internal
Georgia Kraft Co. New York Life Ins. Company	papermaking insurance	Yes No	S NE	750 16,000	Compliance Skill	Remedial Training In-plant Skill Trng/ Remedial Training	Internal Internal
Bay Area Management Council	multi	N/A	FW	varies	Increase Minor- ity Mobility	Technical Services	Member Contrib.

SAMPLE PROJECT COMPONENTS AND TECHNIQUES

COMPANY OR PROGRAM	PROGRAM COMPONENTS						TRAINING TECHNIQUES						SELECTIO TECHNIQUE		
	Job Restructuring	Job Enrichment	Communication Skills	Skills Training	Remedial Education	Tuition Refund	Human Resources Development	Where			Duration	Company	Seniority	Tests	Other
								In	Out	Off					
Industrial Training Svc. Gottscho		X	X	X	X	X	Visits	X	X	X	40 hrs	X			
Blue Cross-Blue Shield		X	X	X	X	X	Posting	X	X	X	40 hrs	X			
Skills Upgrading in Cleveland		X	X	X	X	X	Posting	X	X	X	40 hrs	X			
Skills Upgrading, Inc.	X	X	X	X	X	X	Visits				varied				
Syracuse Upgrading Proj.		X	X	X	X	X	Visits	X			varied		X	ES	
Carrier AirConditioning		X	X	X	X	X	Posting	X			400 hrs		X	ES	
Crouse-Hinds		X	X	X	X	X	Letter	X			varied				
Syracuse Metal Mech. Training Incentives		X	X	X	X	X	Foreman	X			30 hrs				
Payment Program		X	X	X	X	X					varied				
Labor Education Program		X	X	X	X	X									
Transportation Opp'ty Program		X	X	X	X	X									
Int'l Union of Electrical Workers		X	X	X	X	X	Visits	X							
Hotel Trades Council		X	X	X	X	X	Peers								
		X	X	X	X	X	Union								
		X	X	X	X	X	Paper								
		X	X	X	X	X	Union								
		X	X	X	X	X	Paper	X					X		
		X	X	X	X	X	Union	X					X		
		X	X	X	X	X	Paper	X					X		
		X	X	X	X	X	None	X					X		
		X	X	X	X	X	Career	X					X		
		X	X	X	X	X	Maps	X					X		
		X	X	X	X	X	Foreman	X					X		
		X	X	X	X	X	Paper	X					X		
		X	X	X	X	X	Mtgs.	X					X		
		X	X	X	X	X	Paper	X					X		
		X	X	X	X	X	Mtgs.	X					X		
		X	X	X	X	X	Posting	X					X		
		X	X	X	X	X	Mtgs.	X					X		
		X	X	X	X	X	Supvr.	X					X		
		X	X	X	X	X	Visits	X					X		



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APPENDIX A—PROGRAMS IDENTIFIED

NAB JOBS UPGRADING CONTRACTS (REGIONAL LISTINGS)

New York
Region

Cloth Laying Appliance Co.
RCA Corporation
Kollsman Instrument Co. (Syosset)
Fight-On Inc.
Lumex Inc.
Firedoor Corp.
All-O-Matic Mfg. Corp.
Acme-Hamilton Mfg. Corp.
Nassau Hospital Assoc.
Wilbur D. Wade
Hospital Service Plan of New Jersey and
Medical Surgical Plan of New Jersey

Philadelphia
Region

Union Carbide (Charleston, W. Va.)

Seattle
Region

Boise Cascade Corp. (Boise, Idaho)

Kansas City
Region

St. Louis Construction Manpower Corp.
Schlueter Mfg. Co. (St. Louis)

Atlanta
Region

Westab Inc. (Atlanta)
Malone and Hyde (Memphis)

FY 1970 NAB JOBS UPGRADING CONTRACTS (PARTIAL LISTING)

<u>City, State</u>	<u>Company</u>	<u>Trainees</u>
Rockford, Ill.	Valspar Corp.	11
Rockford, Ill.	Valspar Corp.	9
Rockford, Ill.	Rockford Products Corp.	6
Abilene, Tex.	Dunlap Sales and Service	2
Kansas City, Kan.	Providence Hospital	4
Detroit, Mich.	Great Markwestern Packing Co.	50
Trenton, N.J.	Acme Hamilton Mfg. Corp.	50
Nassau/Suffolk, N.Y.	Cohen Auto Co., Inc.	10
Pittsburgh, Pa.	Presbyterian Univ. Hospital	95
Newport News, Va.	T. A. Wilks Realty Co.	3
Pittsburgh, Pa.	Rust Engineering Co. Div of Litton Industries, Inc.	2
Milwaukee, Wis.	Milwaukee Valve Co., Inc.	16
Cincinnati, Ohio	Copying Products Div. Clopay Corp.	20
Rockford, Ill.	Borg Warner, Mechanics Div.	4
Detroit, Mich.	Chrysler Corp. - Chrysler Learning Inc.	200
New Orleans, La.	Avondale Shipyards Inc.	50
St. Louis, Mo.	St. Louis Construction Manpower Corp.	80
Kansas City, Kan.	Providence Hospital	15
Kansas City, Kan.	Myron and Dick's Dental Lab.	1
St. Louis, Mo.	McDonnell Douglas Corp.	376
Los Angeles, Calif.	McDonnell Douglas Corp. McDonnell Douglas Astronautics Co..	11

NATIONAL MDTA-OJT CONTRACTS WITH UPGRADING COMPONENTS*

<u>Contractor & Principal Location</u>	<u>Occupations</u>
AFL-CIO Appalachian Council Charleston, W. Va.	Multi (Machine Cutting Industry, Service, Construction, etc.)
American Federation of State, County & Municipal Employees, AFL-CIO Washington, D.C.	Hospital aides
Chrysler Corp. Detroit	Machine Shop
Cooperative League Chicago	Agricultural
Dental Laboratory Conference Philadelphia	Dental Technicians
Federal Water Pollution Control Admin. Dept. of Interior Washington, D.C.	Waste Treatment Plant Operators
Hoover Ball & Bearing Co. Saline, Mich.	Machine Operators
Institute of Scrap Iron & Steel Washington, D.C.	Equipment Operators
International Association of Rehabilitation Facilities Washington, D.C.	Health Aides
International Union of Electrical Radio & Machine Workers, AFL-CIO Washington, D.C.	Electrical & Electronic occupations
International Union of Operating Engineers, AFL-CIO Washington, D.C.	Equipment Operators, Mechanics, etc.
National Joint Painting & Decorating Apprenticeship & Training Commission Washington, D.C.	Decorator, Painter. Wallpaper Hanger
Laborers' International Union of North America Washington, D.C.	Construction Laborers

Motor Transport & Labor Relations Philadelphia	Truck & Auto Mechanics
National Association of Home Builders Washington, D.C.	Construction Trades
National Machine Tool Builders Association Washington, D.C.	Machine Shop Trades
National Tool, Die & Precision Machining Association Washington, D.C.	Machine Shop Trades
National Urban League New York, New York	Multi
Portland Cement Association, Operative Plasterers & Cement Masons Skokie, Ill.	Cement Masons
Social Development Corp. Washington, D.C.	Hospital Aides
United Auto Workers Detroit	Machine Shop Trades
United Brotherhood of Carpenters & Joiners Washington, D.C.	Carpentry

*Source: OJT National Contracts Office,
Manpower Administration

REGIONAL MDTA-OJT CONTRACTS WITH UPGRADING COMPONENTS
(Partial Listing)

Arizona

Western Apprenticeship
Iron Worker Indian Reservation
JOBS for Progress

California

West Coast Building Materials Association
Bay Area Maintenance Service Council
Standard Register
Equal Employment Opportunity Center
Four Star Cleaners
Richmond Neighborhood House
Todd Shipyards Corp.

Maryland

Maryland State Dept. of Health
Western Electric, Baltimore
Maryland Motor Truck Associates
Baltimore City Schools
Project LEAP

New York

Manpower Education Institute
RCA Corp.

SPECIAL UPGRADING PROGRAMS

American Can Co., Greenwich, Conn.

Non-craft formal training for semi-skilled and skilled positions in can, paper, and disposable container plants throughout the country.

The Bendix Corporation, Kansas City Division

Clerical program which includes off-line training during working hours to upgrade clerks to secretaries and an early identification of management personnel program which involves an off-line supervisory training effort for blue collar workers.

Continental Can Corporation, Ten Locations Throughout the Country.

Basic education using MIND programmed learning package operated in the plant on the employees' own time with no promise of advancement.

Detroit Edison, Detroit, Michigan

Crafts training program which includes formal OJT coupled with classroom training after hours in local community colleges paid for, and in some cases, designed by the company.

Eastern Airlines, Miami, Florida

Program designed to upgrade unlicensed mechanics to licensed status through an after hours training program held in a local school and paid for through Smith-Hughes funds.

Hospital Career Development Project, Three Locations

Program operated by State, County and Municipal Employees designed to build career ladders and to train hospital employees on company time.

Houdaille-Duval-Wright, Jacksonville, Fla.

Supervisory skills instruction, in cooperation with local junior college, for leadmen in concrete product production

Kearney & Trecker Corp., Milwaukee

Special Learner Program combining vestibule school and OJT to upgrade machine operators to specialized tooling skills.

North Carolina Manpower Development Corporation In Plant Training Program - Chapel Hill, North Carolina

Program designed to provide continuing training from initial hiring until individual reaches upgraded position.

Smith, Kline & French Laboratories, Philadelphia

Basic education program for high seniority, low skill employees conducted in cooperation with city school system.

Training and Technology Project, Oak Ridge, Tenn.

Institutional training for advance industry skills combining resources of federal and state agencies, local universities, and a private company.

Trane Co., LaCrosse, Wis.

Cooperative program with local technical institute for shortrun, full-time welding instruction which aids mobility across departments.

Manpower Education Institute, New York, N.Y.

Off hours, off line training in blueprint reading and switchboard, florescent and chandelier wiring for members of electrical worker and building service employee locals. Since 1967, the program has upgraded skills and pay of more than 1,000 trainees.

APPENDIX B—INTERVIEW OUTLINE

DOL UPGRADING STUDY -- INTERVIEW OUTLINE

I. Motivation

1. Why did the organization become involved in this special upgrading effort?
 - a. To fill present or future skill needs.
 - b. As part of their hard core employment program.
 - c. Because of pressure from organized labor or individual workers.
 - d. Because it was felt to be a good personnel policy.
 - e. Because some outside group suggested it and was willing to pay for it.
2. Is the upgrading effort an integral part of the company's total personnel policy or does it have the status of a non-permanent add-on?
3. From what part of the management structure did or does the major support for this program flow?
4. Were there any events or conditions, which preceded the development of the program, which can be identified as causal factors?
5. Once the planning and implementation of the program was underway, was there any factor which increased or decreased the motivation for the program?
6. What has been the impact of local labor market conditions on program planning?

II. Planning

1. Who was the official given the responsibility for the planning of the program?
 - a. His position in the organization.
 - b. His ability to negotiate with other interested parties.
 - c. His ability to make final decisions.
 - d. His access to top management in the organization.
 - e. Who does he report to?
 - f. Is he still involved with the program?
2. What other parties were involved in the planning of the program?
 - a. What was the form of their involvement?
 - b. Did this multiple planning configuration cause any difficulties?

Interview Outline

- c. Was approval needed from the organizations represented by these individuals?
--If so, was it difficult to get?
--What were the difficulties?
 - d. How long did the planning process take from initiation to implementation?
 - e. Who paid for the costs incurred during the planning process?
3. Were there any major program modifications made during the operation of the program?
- a. What were the reasons?
 - b. What was their nature?
 - c. Did they work?

III. Occupational and Trainee Information

1. Who were or are the trainees?
 - a. Age
 - b. Sex
 - c. Educational attainment
 - d. Marital status
 - e. Time working for the company
 - f. Time in last position
 - g. Disadvantaged worker
2. What type of position did the trainees hold before and during training?
 - a. What was the pay rate?
 - b. How many levels was it removed from entry level?
 - c. What part of the work force do these positions constitute?
3. What type of positions are they being upgraded to?
 - a. How many levels is it removed from entry level?
 - b. What part of the work force do these positions constitute?
 - c. What is the pay rate?
 - d. How were these positions filled formerly, internally or externally?
 - e. Was any special training given to prepare persons for these positions prior to this program?
 - f. Was there or is there any difficulty filling these positions before, during and after the program?
If so, why?

Interview Outline

IV . Recruitment and Screening:

1. How is the program publicized?
 - a. Bulletin Board
 - b. Newsletter
 - c. Work of Mouth
 - d. Newspapers
 - e. Chain of Command
 - f. Outside agencies
 - g. Other
2. How is the selection made?
 - a. What is the role of testing?
 - b. What is the role of superior's evaluations?
 - c. What is the role of seniority?
 - d. What is the role of production records?
3. Are special arrangements made for the ("hard core") disadvantaged worker?
4. What is the union, management, or outside agency's role in the selection process?
5. Does the collective bargaining agreement effect the selection process?
6. Do more people apply for the program than there are openings?
7. Do the selection procedures developed for this program differ greatly from normal promotional selection?
8. Has there been any major difficulty in the selection process?

V. Program Components

1. Is the training voluntary or compulsory and why?
2. What is the nature of the training?
 - a. Specific skills
 - b. General staff development
 - c. Remedial education
 - d. Management skills training
 - e. Sensitivity training
 - f. A combination of the above

INTERVIEW OUTLINE

3. Who performs the training?
 - a. Special company unit
 - b. Regular company personnel
 - c. Outside profit-making firm
 - d. Outside public or non-profit institution
4. Where does training take place?
 - a. In the production facilities
 - b. In a special company-based training facility
 - c. Other
5. When does the training take place?
 - a. During working hours
 - b. Before or after working hours
6. Does the trainee get paid for the time spent in training?
 - a. Who pays him?
 - b. How much is he paid?
7. What is the length of the training for each occupation being trained for?
 - a. How many months?
 - b. How many hours per day?
 - c. For specific skills and remediation
8. Do the trainees receive special counselling?
 - a. What is the nature of this counselling?
 - b. Who does it?
9. Were there any special supportive services provided for the worker and who provided them?
 - a. Tools and materials
 - b. Special physical examinations
 - c. Special health care (glasses, dentistry, etc.)
 - d. Day care for children
 - e. Transportation to training
10. Was the trainee promised a job if he finished the program?
11. What was the cost per trainee?
 - a. Who paid for the training?
 - b. If the company paid for it, which department budget was it taken from?
 - c. How does the training cost under this program compare to normal training cost for those positions?

VI. Program Outcomes

1. How many workers have been trained?
 - a. How many entered the program?
 - b. How many completed the program?
 - c. How many were placed in the job they were trained for?
 - d. How many successful graduates are still with the company?
 - e. How many non-completers are still with the company?
2. Why did trainees leave the program?
 - a. How many were dropped as unsuitable?
 - b. How many quit of their own accord?
 - c. What were the reasons for leaving?
 - d. What happened to them after they left the program?
3. Did the program achieve its intended results?
 - a. Skill shortages
 - b. Worker morale
 - c. Other
4. Are there plans to continue or expand the program?

VII. Nature of Operational Experience

1. If the program were beginning again, what changes would you make in its present operation and structure?
2. What do you see as the role of special upgrading efforts in the future of your company and industry?

APPENDIX C—SAMPLE PROGRAM PROFILES

AVONDALE SHIPYARDS

Avondale is a major shipyard located a few miles north of New Orleans, La. on the Mississippi River. In its main yard, the company employs approximately 9500 people, 7000 of whom are non-union hourly workers. The job classifications include welders (1150), tackers (1200-1500), shipfitters (800), electrical workers (600), pipefitters (600), machinists (300), and helpers (2000).

The company, formed in 1938, was a small yard until 1961 when it was purchased by the Ogden Corporation. Its employment rose to 5000 in 1965 and doubled that in recent years. Because of a lack of trained manpower in the area, the company had traditionally done its own training, but to meet their recent skill needs training has been intensified and formalized. This training is offered in-plant, on company time.

Workers enter the occupational structure at the helper level in the various departments. From this position, they progress into tacking and then move to a mechanic classification in pipefitting, shipfitting or welding. It normally took four to five years to reach top skill levels,

with promotions based on supervisors' assessments.

A large buildup in orders for new ships created the need for far more skilled mechanics than the normal progression and training time would provide. This need, along with indications that employees were dissatisfied with the length of time required to reach top positions, hastened the company's recent move to a more structured and shorter training program using funds under the upgrading option of the NAB JOBS '70 reimbursement plan.

The program consists of eight weeks of classroom instruction in blueprint reading and metal burning, followed by one year of special on-the-job experience as a fitter trainee (a new title). The men then are considered qualified for third class mechanic's rating, one step above the beginning slot of the craftsmen progression.

Fifty trainees were selected by management from those employees who had been with the company three months or longer and claimed a tenth grade education. The men selected for the program earned between \$2.00 and \$2.49 an hour at the outset, and gradually progressed to \$3.56 an hour as third class fitters within a year, half the time normally required.

BAY AREA MANAGEMENT COUNCIL

The Council conducts the National Alliance of Businessmen's activities in the San Francisco Bay area and coordinates local employers' efforts to hire and train disadvantaged workers. Since its founding in 1967, extensive promotional and advisory activities have been directed chiefly toward securing entry level positions for poor people. The Council's major operational effort has been the sponsorship of multi-skill consortium training centers in San Francisco and Sunnyvale serving disadvantaged employees of member companies.

Up to now, the Council has moved slowly in marketing the upgrading option of the JOBS '70 program. Its program development specialists have become increasingly aware of the difficulties in marketing these programs and in providing technical assistance. However, the Council's acceptance by the business community may lead to more active programing in this area.

CINCINNATI MILACRON

Cincinnati Milacron, Inc. is the largest producer of machine tools in the United States, recently branching out into such diverse areas as plastics, chemicals, plastics

processing machinery, process controls, and computers. The company, which is not unionized in the United States, employs approximately 14,500 people world-wide, about two-thirds of whom are located in their operations in the U.S.A.

The major focus of the company's effort to improve the growth of employee ability is an in-house unit called the Personnel Development Center. The Personnel Development Center, in serving many employees each year, offers a range of assessment, counseling, training, and education services. The philosophy underpinning the Center's operation is that each individual has his own set of needs and requires a particularly tailored program to meet these needs. The programs administered by the Center range from after-hours classes in simple blueprint reading to five-year cooperative education and training programs, in conjunction with various universities, leading to degrees in engineering.

In order to ensure that each foreman and supervisor is aware of the aspirations of his subordinates, the company encourages him to interview his people periodically and submit reports reflecting the occupational desires of his workers to management and the Personnel Development Center. These aspirations are quantified and computer processed to serve as a guide for future training and development activities.

The key to the Personnel Development Center's program

is its assessment and counseling service which regular employees are encouraged to use. Those employees wishing greater career opportunity than they feel they currently have are interviewed and assessed to guide the Center in assisting the individual to plan the best program.

If he and the company would best be served by one of the several full-time training programs and if he is sponsored by his supervisor, the employee is eligible to be transferred to the Center's training organization with its completely equipped training facility. The Center also operates several specific voluntary classes after hours for those who do not need full-time programs.

Because often a worker needs preparation not offered by the company, the Center maintains a complete guide to training and education resources in the Cincinnati area. The Center staff will assist the worker to enroll, and a substantial portion of the tuition will be refunded through the company's Tuition Aid Program.

The company bears the Center's entire cost based on its concern for employee welfare within the framework of company objectives, and a continually growing need for new technical skills. The program, originally designed for apprentices, has recently begun to focus on the need to develop the growth potential of the entire workforce, and the Center staff have become vocal advocates of broader personnel development.

GEORGIA KRAFT COMPANY

The company, jointly owned by Inland Container Corporation and the Mead Corporation, has manufacturing facilities in both Rome and Macon, Georgia. The firm's program attempted to solve the problem of qualifying black workers to move into higher levels in the company's well-defined occupational structure. Assisted by a \$141,000 grant from the Ford Foundation and under the sponsorship of the American Paper Institute, the program began in March of 1969. Work under the initial grant has been completed and the company is now investigating the possibility of additional programs in this area. A worker in this unionized company who meets entry level requirements presumably may progress to the top of the job structure based on his seniority and ability.

Historically, black employees who could not pass entry tests for viable progressions were hired as laborers in the woodyard. Many of these long-term employees were functionally illiterate and structurally blocked from in-plant skill sequences.

However, the 1964 Civil Rights Act declared illegal racially segregated career progressions, and Georgia Kraft subsequently modified its job ladder. The firm was then faced with the problem of raising the literacy levels of the woodyard laborers to permit them to move into higher level jobs.

Georgia Kraft then installed a U. S. Research and Development Corporation training package in the Rome and Macon facilities to provide remedial education for the unqualified workers. The program, administered by the U. S. R & D staff, consisted of 183 hours of programmed instruction in mathematics, reading and communications skills. The training was conducted on the employees' own time, in a special plant facility open 12 hours a day.

The entire laborer pool at the Rome mill (64 workers) was urged to apply for the training. Of these, 49 indicated an interest (after a good deal of urging by the project and company personnel) and began classes. Forty-three have completed the program, and 10 of these have already been upgraded. At Macon, 50 of 53 eligible entered the program and 30 have completed the training. Most are expected to move up as openings occur, but with a turnover rate of only 2 to 3 percent this process can be quite slow. Although traditional racial attitudes and fear of failure has caused some reluctance on the part of the trainees to bid for higher jobs in formerly all-white progressions, this problem appears to be diminishing. Those employees who had reached a higher pay level as laborers than the entry level pay for qualified workers, were not reduced in pay upon entry into the progressions.

HIGH INTENSITY TRAINING (HIT) - THREE CITY DEMONSTRATION PROGRAM

The Department of Labor's Manpower Administration funded a multi-city experimental and demonstration upgrading program centered around the High Intensity Training (HIT) model developed under previous DOL contracts. The program's objectives were to determine the effect of a variety of sponsoring agencies on implementing the HIT format for training low-skill workers and to examine the short and long range effects of the program on workers and employers. Three cities were selected for participation in the 18-month program, each with a different type of sponsorship. In Newark the State Employment Service and the New Jersey Department of Labor sponsored "Industrial Training Services." In Cleveland the Mayor's Department of Human Resources and Economic Development monitored "Skill Upgrading in Cleveland," and "Skill Upgrading, Inc." was established in Baltimore as a private non-profit organization.

The major components of the HIT program include an analysis of manpower needs, 40 hours of in-plant training, with curriculum stressing individual development as well as skills, a guarantee of trainee promotion with an 8 to 10% salary increase, and the training of a company official to continue training efforts.

Several of the more rigid requirements of the HIT model (such as the letter of agreement committing employers to the 8 to 10% salary increase for the trainees) had to be modified, and the program was changed, in almost every instance, to meet the specific needs of each company.

Generally HIT has been quite effective in boosting morale in the short run and in moving a limited number of workers up to better paying positions requiring slightly increased skills. But the three-city program staff has voiced a desire to exert more long term impact on the mobility structures of the companies and on their overall employee development concept.

Newark - Industrial Training Services (ITS)

This program has continued operation after the demonstration period as the Industrial Training Services unit of the State Employment Service. The marketing activities were assisted by the project's ready access to Employment Service data. Newark found that upgrading efforts were more easily established and were more successful in small, non-union companies than in large, highly-unionized plants with rigid mobility structures.

ITS found it necessary to modify the standard HIT package to meet the specific needs of employers. Often this

meant offering awareness training to first-line supervisors as a softening up technique in preparation for installation of the full HIT package. When necessary, they called upon the Newark Skills Center to provide instructors for technical skills training. Under the initial contract, the program operated in 13 companies and trained 362 employees.

Although the program is continuing to offer training services to industrial organizations, and in fact has a substantial backlog of requests, the staff has begun to develop greater interest in the public service as a marketing target, and in the need for more intensive experience in job restructuring techniques.

ITS, as an operating model, has sufficiently impressed New Jersey officials to encourage program expansion to other local offices in the state, and the U. S. Training and Employment Service is basing much of its plan to export upgrading programs on the Newark experience.

Baltimore - Skills Upgrading, Inc.

This program ceased operation after the initial 18-month demonstration period, as its non-profit corporate sponsorship was unable to secure new funding.

Several officials formerly associated with SUI noted that the major problem of the Baltimore project, like Newark, was a marketing difficulty. Although the Board of Directors was deeply involved and concerned with the program's success, most were from the public, rather than private sector and were thus unable to render much assistance in either the marketing effort or the development of training approaches. This difficulty was further compounded by a staff drawn largely from local community action and manpower programs often unfamiliar with the business community.

The services to 17 organizations involving 394 employees during SUI's existence were quite successful, however, and staff loyalty to the program was firm in the face of funding difficulties.

Skill Upgrading In Cleveland - (SUIC)

This program, sponsored by the Cleveland mayor's office, has continued operation as a city agency under the auspices of the Department of Human Resources and Economic Development. During the course of the original 18-month contract period, SUIC trained 282 persons in over 30 companies.

The program, located in a building in the downtown

business area, creates the impression of a private training consultant. During its period of operation, the program has replaced a substantial part of its original staff, drawn largely from public manpower programs, with personnel possessing engineering and business backgrounds.

Although the staff recognized the value of the HIT model as a marketing device, they felt more could be accomplished with a broader approach. As a result of the two-year experience with the HIT model, the Cleveland staff has developed a package of services called Advanced HIT. This approach calls for a redefining and enriching of jobs, human relations development, individual counselling and equally important, training of supervisors to enable them to conduct needed training.

HOTEL TRADES COUNCIL - HOTEL INDUSTRY TRAINING PROGRAM

The New York City Hotel Trades Council, responding to worker interest, reached agreement with the Hotel Industry Association for a program providing for the training of employees for promotion and advancement. A management contribution to the "Hotel Trades Council and Hotel Industry Training Fund" is required in the sum of one dollar per month for each employee on the payroll to be utilized by the Fund to carry out the training program, jointly ad-

ministered by a board of directors drawn from both management and labor. Although the fund has been accumulating for almost two years, the training program just now is getting underway with the hiring of a director.

The program grew out of several years of labor-management cooperation in developing and operating pilot programs, funded under the Manpower Development and Training Act, which were designed to upgrade unskilled employees (kitchen helpers and chambermaids) to more skilled positions as night auditors or cooks.

Since both management and labor had a limited planning capability, an outside consultant was brought in to assess industry and worker needs and to draw up a strategy for program development.

It was recognized that many hotel industry employees do not understand the structure or the occupational make-up of the industry. The program staff is now developing a training package which will be distributed to each hotel in the city in an attempt to fill these knowledge gaps and motivate employees to participate in the program. As of this writing, no specific skills training programs have been offered, and basic decisions on techniques and program formats are still under discussion.

HUGHES TOOL COMPANY

Founded in 1909 by Howard R. Hughes, Sr., Hughes Tool in Houston, Texas is one of the largest privately held companies in the country. The company's major product is rock bits for oil field drilling, and it presently controls a substantial part of the world market. The firm currently employs 2400 hourly workers, the bulk of whom are machine tool operators.

The company's collective bargaining agreement with the United Steelworkers contains unusually graphic career maps indicating all lines of progression in each department, the priorities of consideration for filling each job vacancy, and the physical location of each specific job within each labor grade. Promotions are made on the basis of departmental seniority and testing which begins at labor grade six. All employees eligible for promotion are notified and may apply for the job.

Hughes Tool has experienced some difficulty in qualifying minority group employees for positions beyond the lower labor grades. In response to this, the company has modified a 10-week voluntary lecture course (which was originally intended to help all employees pass the test) to meet the remedial education needs of its less literate

workers. Willing employees are instructed after hours on a one-to-one basis until they can pass the simple blueprint reading and shop mathematics tests. Promotions continue to be made within the provisions of the collective bargaining agreement. All skills training is handled in the departments on the job, but the company's training department conducts craft and special skills instruction.

INTERNAL REVENUE SERVICE - WESTERN REGIONAL OFFICE

The Internal Revenue Service is committed to a policy of promoting from within. As with many governmental agencies, the Service offers highly sophisticated and intense formal and on-the-job training programs for all employees. Senior employees are selected from the regular workforce to act as trainers, returning to their regular duties after a determined period of time. The Service has developed a broad range of correspondence courses in accounting and business law and also provides tuition refunds for those employees wishing to take such courses in a local educational institution.

The innovative aspect of the Service's program is a sophisticated career mapping system which displays alternate progressions for all technical and professional personnel. To ensure that all employees are aware of the many alternate advancement paths, an attractive pamphlet

has been designed outlining career progressions in both narrative and graphics. The guide describes occupations in terms of educational and experiential prerequisites, the occupation's function within the Service's various organizational units, the duties and responsibilities at each skill level and within each organizational unit, the self-initiated activities an employee may undertake to advance, and the on-the-job training activities and formal classroom training offered at each level.

IRS distributes the pamphlet to all employees (including those in non-technical classifications), and supervisors hold training sessions to see that the employees can both understand and use the document.

The Service, according to a directive to supervisors, hopes that after hearing the orientation and receiving the brochure employees will become enthused with the portrayal of the many career progression opportunities and will become motivated, with the help of their supervisors, to engage in the developmental activities contained in the brochure.

INTERNATIONAL UNION OF ELECTRICAL, RADIO AND MACHINE
WORKERS (IUE)

For the past four years, the IUE has offered for

employers' use training monies which the union administers via its nationwide MDTA-OJT contract. IUE staff members directing the program attempt to identify instances where management might be encouraged to better structure entry level and upgrading procedures with the aid of these federal funds. This assistance has been applied in nearly 20 companies within the past year.

The union's interest in the upgrading portion of this program stems, originally, from its attempt to provide entry level openings for minority groups. It was felt that if more workers could advance, more openings could be provided at the entry level. In addition, the union tries to limit hiring-in practices of employers in order to provide more opportunity for the rank and file to move up. Finally, many firms have complained that the lack of skilled personnel has forced them to turn work away, thus limiting employment opportunities for union members.

The upgrading portion of the program involves incentive payments to employers of up to \$5 per employee per day for no more than 20 weeks, with the provision that the worker be paid his new rate from the time training begins. The marketing activities are handled by coordinators in three of the union's districts. The district coordinator waits for an invitation from the local union's

leadership before contacting an employer. Once invited, the coordinator visits the firm and explains the program to management. After reaching verbal agreement, a written contract is drawn up for approval by management officials and the local union's leadership and sent to Washington for execution. The employer may install training methods he feels best suit the particular situation, with the local union monitoring the training activities to determine that neither the training contract nor the collective bargaining agreement are abused.

IUE also has an Education Advancement Program similar to the Labor Education Advancement Project - LEAP. The IUE's collective bargaining agreements at the major electrical product companies contain tuition refund provisions for the rank and file, and the union has trained counselors to encourage the membership to take advantage of this program.

LABOR EDUCATION ADVANCEMENT PROJECT - (LEAP)

This project intends to encourage the educational development and the upward mobility of wage earners through labor-management cooperation in more effective use of tuition refund programs at educational institutions. The project is being conducted under a DOL grant through

New Jersey's Department of Labor to the labor education center of Rutgers University in New Brunswick.

The program seeks to identify the educational and training needs for upgrading workers; coordinate the various education and training opportunities available both within and outside the plant; test and develop innovative approaches in providing career guidance to workers; determine the impact of education resources and training on the workers, employers and industrial relations in the area; and, finally, develop recommendations for the implementation of similar approaches, methods and programs in other parts of the country.

With the assistance of the Joint Labor Council of Middlesex County (N.J.) and others, the project attempts to get approval from management and local union leadership to install a program in a target plant. Counselors are selected from within the work force and trained at the center in organizational skills and counselling techniques as part of their training, they visit local educational institutions. They conduct surveys of employee educational and vocational aspirations and guide co-workers in terms of their interests and needs toward appropriate education or training programs, some of which are free and do not require tuition refund. The counselor acts as a catalyst

to heighten worker interest in self-improvement. LEAP offers no financial assistance, but counselors are paid small stipends for a limited number of weeks.

In most plants, counselling is done during breaks or meal times, but several plants have allowed some released time for this. Often questionnaire dissemination and collection has proved difficult, chiefly because of the large size of some of the plants involved.

NEW YORK LIFE INSURANCE COMPANY

One of the largest insurance companies in the country, New York Life is a typical example of a white-collar industry's approach to training and employee development.

It has a total of 16,643 employees with approximately 5,000 in the home office. Many of these New York employees are young women in clerical, typing and stenography jobs for which the turnover rate is as high as 80 percent. During the last few years, a number of these positions have been filled by non-high school graduate, minority group workers, many of whom required varying degrees of remedial education and skills training to qualify for even the lowest skill jobs.

Workers progress through the job structure on the

basis of ability and supervisory recommendations. Seniority is a factor only when all other factors are equal. Job openings are not posted because of the company's feeling that this promotes dissatisfaction and stirs up animosity; supervisors fill openings from within the department when possible, or they may ask the personnel department for qualified candidates from other departments.

In addition to its regular on-the-job training, the company offers extensive formal training to enable employees to progress more rapidly through the structure. Training department communications announce the various programs, and supervisors recommend those workers who might be qualified and interested. These programs strive to improve typing and stenographic skills, and are conducted on site, on company time by company trainers.

In some cases, MIND Inc. programmed learning courses are used. Most of the programs include some human resources development, and the company has conducted numerous awareness and sensitivity training programs for supervisory personnel.

All non-high school graduates are encouraged to participate in a high school equivalency program conducted by a local college in company facilities. The

program consists of 30 two-hour sessions held after hours. Over 60 students per year enter the program, but the completion ratio is not as high as the company had hoped it would be. Last year, of 62 students entering the program, only 13 received diplomas, 15 completed the course but failed the test, and 34 dropped out.

Although some thought has been given to a NAB JOBS '70 upgrading program, management generally feels that this training is being done already by the company and outside funding is not needed. New York Life is continuing to explore new approaches to expanding worker opportunity and increasing employee morale and productivity.

PRECISION CASTPARTS CORPORATION

After a series of relationships to other organizations dating back to 1949, this Portland, Oregon firm has independently established in 1957 with 99 employees. Precision Castparts employs 400 people, down from a high of 700 two years ago, and produces large investment castings with sales plateauing at \$13 million, after previously climbing substantially each year. In 1968 this non-unionized firm began to be troubled by a drop in growth, and instituted a series of economy measures to sharply tighten its operations. These moves apparently were accompanied by strict manage-

ment practices which agitated the workforce and raised the strong possibility of union organization.

On the advice of counsel, the president and vice president began a crash program of meetings, dubbed by the workers as "pitch-a-bitch" sessions, with all employees in groups of 20. The advice of behavioral scientists (the work of whom had been of interest to several company officials previously) was sought, and a behavioralist from a nearby university served as on-site consultant. A Technological Improvement Board was established to review suggestions about process change. Jobs were evaluated by the workers themselves and re-rated for their true importance in consultation with supervisors and middle-management. This resulted in a stretching out of the occupational structure at both ends and the creation of a new and more effective upward mobility system. No special training programs were installed because of this restructuring. Greater emphasis was placed on a team approach to production. Meetings became more frequent and more meaningful; departmental meetings were instituted between foremen and their men during working hours. Communications were opened with middle managers and experimentation was begun with liberalizing the work rules for hourly personnel who were allowed, consistent with the team needs, to schedule their own eight hour day by mod-

ifying their arrival, departure, break and lunch times. The company is now examining the possibility of extending these practices to include the entire workforce.

One major need was to communicate top management's awareness of the problems of hourly personnel to middle management and foremen. This issue has been attacked by intensive group sessions involving all levels of supervision directed at the outset by professional group leaders.

Precision Castparts says absenteeism has significantly dropped, productivity is up considerably and reject rates down, and a noticeable shift toward a higher morale has taken place after early skeptical reactions. The firm admits it has not reached its full goals of productivity and worker stability, but a demonstrated increase in worker effort has been noted. It recognizes that the tightened local labor market has made its job easier and the real test of its effort will come with a general job expansion in the Portland area.

SIGNAL OIL COMPANY

In 1961 Signal Oil, a medium-sized petroleum company headquartered in Los Angeles, merged two refineries

in the Houston area combining their work forces in an improved modern facility. This action left the firm with 30 long-service, unneeded laborers, but this overhead was not critical until a downturn several years later. At that time, many men were laid off, but the laborers stayed on the job protected by seniority. Signal decided to give these men needed skills rather than return to the outside labor market when business improved.

The laborers were all minority group members, Mexican-American or black, and most were functionally illiterate. Signal Oil allocated \$17,000, hired a consultant from a local university, assessed the needs of the people involved, renovated an old building into a training center, hired a mathematics and reading teacher, and developed a curriculum using commercially available adult education materials.

The men were required to attend classes during working hours and were promised that they would be considered qualified for promotion if they completed the course. The first seventeen completed the course within six months and were immediately upgraded to jobs in the operations department with an increase in salary of approximately 97 cents per hour. The remaining 15 men did not seem suitable for

jobs in the operations department and were upgraded over the next year to Mechanical Craft Helper II positions. However, when the men got on the job, it was found that they had no knowledge of tools or stock materials. They were put back into a tool recognition class along with those regular workers who demanded the same instruction.

In order to better handle the periodic maintenance operation involving disassembly and cleaning of equipment, management negotiated with the union to create a special part-time classification (called shutdown craftsman) to relieve pressure on the first-class men formerly responsible for this function. The Helper II's were offered this part-time upgraded position, where they not only would work on their own, but also would have some supervisory responsibility. After some resistance because of fear of failure, most of the men accepted the job where they were paid first-class wages during the times they were involved in this operation.

The company has now decided to assign each Helper II man to work on a one-to-one basis with a first-class craftsman. After ninety days, if this craftsman feels that the Helper can handle the job, he will be considered qualified for upgrading to the top position.

In February of 1970 only nine men remained in the school, and the company felt that further formal instruction would not be useful. It sent two men to after hours night school to solve a language problem, and two to auto-mechanics school. The remaining five were placed in laborer jobs in the plant.

SYRACUSE UPGRADING PROJECT

The Syracuse Upgrading Project was designed as a demonstration program intended to help workers employed in various industries at lower skill and wage levels to enhance their promotability. Funded by a grant from the Research and Evaluation Division of the DOL and operated by the Syracuse local office of the New York State Employment Service, the program developed specific training courses based on skill surveys of the Syracuse area. Initially this involved metalworking trades only, but the courses were later broadened to include other occupations. A skills center, originally set up to train unemployed workers and located in downtown Syracuse, was found to be a satisfactory facility from the viewpoint of employers who lacked training space or free equipment. The Syracuse Research Corporation, a unit of Syracuse University, provided research and monitoring service for the program.

Marketing of the program was accomplished by project staff through mail solicitations and field visits. No direct cost was involved for the 30 metalworking companies and several hospitals which participated. In a 21-month period ending in December of 1969, the project trained 403 workers in a wide range of metal-working and hospital skills using curricula developed jointly with each firm or organization. Of 241 program graduates, 123 were upgraded with salary increases ranging from 15 to 42 cents an hour.

The program's impact was severely limited by the economic downturn experienced in the Syracuse area. It was noted that the off-hours, off-site nature of the training and the lack of assurance of immediate promotion did much to discourage workers from participating and did contribute to the substantial attrition rate.

Although the demonstration phase has been completed, area companies are continuing to refer employees to the skills center, which has broadened its training to 10 occupations. Former project officials believe the residual effect of the program is strong and that a high percentage of center graduates now have been upgraded, but unfortunately there is no solid data on the current positions of trainees.

TEKTRONIX, INCORPORATED

Founded in 1946, Tektronix is the nation's leading producer of oscilloscopes with sales of more than \$140 million. It prospered during the post-war years' need for testing and measuring equipment, with the Beaverton, Oregon facility employment growing to more than 8,500 people in recent years before a current dropoff in demand. Its 7,500 present employees were asked to use their accrued leave during the year-end holiday period in an effort to reduce inventory, its first major production cutback since the company was founded.

Tektronix has no defined "program" in the sense of most other surveyed projects. It has, rather, an overall personnel policy, a management philosophy, and an educational capability which strives for the fullest possible personal growth of all its employees.

The company is not unionized, nor has there ever been an election. All employees are on salary, although half would correspond to hourly workers at other companies. Under the firm's profit sharing plan, 35 percent of profits before taxes are distributed to all employees based on their salaries and all begin participation from their first day of employment.

Beaverton is a small community near Portland in

which Tektronix has laid out its facilities in several separate buildings in a campus atmosphere. There are few institutions of higher education in the area and because of the specialized nature of its product, the firm found it necessary to develop its own Education & Training Center which at first concentrated on technical programs for managers. But with an increasing need to satisfy all employees' needs and demands for further instruction, the Center's activities have broadened to cover about 80 subjects, many unrelated directly to the job. Approximately one-third of the employees and their families are enrolled, with the student mix cutting representatively across management and non-supervisory lines.

This level of participation apparently stems from management's interest in the program and from the likelihood of appropriate reward, although no promotions are promised. With production currently down, and a freeze on expansion, enrollments in the school have dropped off but the education program has not been significantly trimmed.

The company's basic technique for expansion and frequent two-way internal communication is through its Area Representative system. Small geographic groupings of employees elect a representative who monthly hears their questions about the company operations and products, and

carries these inquiries to a meeting of all Area Reps and top company officials for both response and relay back of information management wants disseminated.

The firm operates in an atmosphere of informality, with top management working in open areas, and on a first name basis with all. There is a subtle aversion to academic credentials, and an emphasis on maximizing the individual's control of his job.

TEXAS INSTRUMENTS, INCORPORATED

This Dallas-based non-unionized electronics firm, employing 48,000 people in 29 plants worldwide, is noted for its enlightened approach to employee development. It has long been a leader in innovative techniques in training and motivation of workers ranging from simple skills training to sophisticated job enrichment.

The company was founded in 1930 as a small oil exploration contractor (then called Geophysical Service). In the early 50's, it entered the transistor business and experienced a period of spectacular growth and expansion. In spite of this growth, the management of the company was anxious to retain a small-firm atmosphere.

This attitude, paired with a great need for rapidly changing and increasingly complex skills, was the basis for the continuing experimentation with and implementation of various training, educational and development programs on which the company spends substantial resources.

The personnel department points out, however, that new programs for the workforce must often be attended by solid arguments buttressed by hard data before more ambitious personnel changes can be implemented, and that innovative techniques can be applied only gradually within a large employer such as TI.

Job advancement is based on individual initiative; a job opportunity system operates by posting job openings in the company newspaper in a "want-ad" format listing job requirements and duties. Many jobs require additional formal education, paid for by the firm, and a large amount of remedial basic education is done by the company (and by outside institutions) to aid entry and low level workers to function better in jobs requiring higher technical skills. Management feels that the local public schools are not equipping the younger workers with the basic skills necessary to enter the workforce, and is attempting to establish its own high school, and perhaps even its own university. The company is presently seeking outside resources to defray

the cost.

TI has recently experienced the first layoff in its history, thus reducing opportunities for special upgrading efforts. However, it was conducting a JOBS '70 program to upgrade 54 process controllers to inspector and 24 machine operators to machine set-up men, about half of whom have now moved to their new positions. Officials felt that the 10 percent pay increase requirement under JOBS '70 was not feasible in most instances, the amount of training that could be done in a short period of time not usually warranting that large a wage jump.

TI had a successful experience in hiring and retaining hard core workers through the JOBS entry level program largely, according to the personnel department, due to an extensive achievement motivation component which they feel should be included in any widespread upgrading effort.

TRAINING INCENTIVE PAYMENTS PROGRAM (TIPP)

TIPP is a three-year research and demonstration program funded by the Department of Labor and administered by the Institute of Public Administration in New York City.

The program offers incentive payments to employers who will agree to increase their poorly paid employees' wages. All employees who have worked full-time for more

than three months and earn less than \$90 per week are eligible. Each six months, after an agreement with TIPP, the employer certifies that weekly earnings of his designated workers have increased an average of \$5 per week or more over the preceding period. TIPP then reimburses the employer for a percentage of the increase in earnings, with subsidies varying from 50-60 percent of the increase during the first two years, to 15-25 percent during the last year.

The TIPP staff increasingly is attempting to provide technical assistance to help the employer solve structural difficulties associated with wage changes.

Originally it was thought that the concept would be self-marketing. However, the TIPP staff has spent substantial time in selling the program to employers. They have found their greatest success with service and clerical workers in small and medium size companies.

By the end of its first year of operation the program had filled or had commitments for reimbursing pay boosts for 400 of the 500 people for which it was funded.

TRANSPORTATION OPPORTUNITY PROGRAM

The Transportation Opportunity Program (TOP) is a special training center designed to train both hard core re-

cruits as professional heavy duty truck drivers and to upgrade the skills of those already in the industry to become certified Class I drivers.

The upgrading component was developed in response to demands by the senior workers in the industry for training similar to that TOP was offering to disadvantaged workers. There were many men in the industry with Class III and Class II licenses who wished to qualify for Class I status but did not have access to the equipment for the training.

The training is held on the employees own time, both after hours and on Saturday at a facility located in the transportation area of Los Angeles. The center operates several multiple-axle trucks used for driver training, including cabs which have been enlarged permitting several trainees to watch the lesson of a colleague.

To apply for the program the trainee must get a letter of commitment from his employer agreeing that if he goes through the training he will be considered qualified for a Class I driving job. In reality, however, the employer is not bound to upgrading the individual and generally the letters are as non-committal as possible. Until this year, this was not a real problem, since there was an

extreme shortage of drivers in the Los Angeles area. However, with the downturn in the economy the market has loosened up and many graduates have had to wait to be upgraded. Despite this, TOP has a six-month waiting list of people who want to enter the program.

Los Angeles trucking firms have rigid union boundaries between warehousemen and drivers. Loading dock workers who receive Class I driver's licenses through TOP often have difficulty transferring across local unions at their company, and as a result usually leave for another terminal. The extent of this "spiral mobility" is not precisely known, but TOP officials have recently been awarded a special DOL grant to study not only matters of this nature but, more importantly, the real impact of the program on attitudes and responses of managers and workers.