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ABSTRACT

The paper provides historical background of the training movement, an overview of the state of the art of personnel development in business and industry, and assessments affecting the future direction of human resource development in business/industry and public vocational education. An historical sketch traces training for work through apprenticeships and guilds, factory schools, Federal legislation for vocational education, professional organizations, and the effects of political/economic/societal forces. A section, "The Human Resources Pool," deals with the problem of determining who should be selected for training and by what means (testing, discrimination, and commitment to train the disadvantaged and handicapped). The section on "Human Resource Development," reflecting numerous studies, differentiates among terminology and provides general statements regarding facilities, methods and materials, courses and programs, costs, and evaluation. A section on "Organization and Management of Training" covers organizational structure, staffing of training programs, the role of the training director, inservice education, and professional organizations/journals. The author offers 15 conclusions on industrial training, nine predictions with related bibliographic citations, and 12 action-oriented recommendations. A bibliography of selected references is included. (EA)

AN OVERVIEW OF PERSONNEL DEVELOPMENT IN BUSINESS AND INDUSTRY

By

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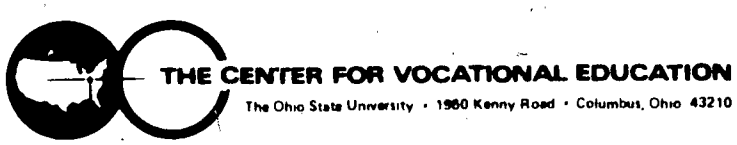

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This assignment was conceived to provide vocational educators with an overview of the current status of personnel development in business and industry across the United States. The definition of the word 'overview' would prompt one to make a few generalizations about the topic as an approach to satisfying the requirements of the assignment. However, the scope of personnel development in business and industry is that enormous and the structure so varied that one cannot readily grasp an overview of it. It, therefore, becomes a formidable task not only for one to present the overview but also for you to comprehend it.

An obvious beginning, now that the challenge has been accepted, is to declare the perspective from which the paper took shape and to specify limits and establish parameters which make the task somewhat more manageable. The perspective, or viewpoint is, of course, that of a vocational educator with experience in public school education rather than in business and industry training. Public education and industrial training are similar in many ways; a major difference is in instructional settings. The vocational education perspective, with its set of

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pedagogical biases, is counterbalanced in this paper with conclusions, issues, trends, and projections about corporate training discovered in the search for information.

Information and materials were gathered primarily through an intensive review of the current literature, a number of interviews with industrial trainers, and limited visits to corporate training sites and learning laboratories. A concerted effort was made to favor the use of printed materials generated in the late 1960's and early 1970's, however, those produced earlier were not disregarded if, for example, they represented landmark research or filled an information gap.

The outline developed for the paper establishes parameters within which the report was researched and written. A historical sketch of the training movement from apprenticeships to human resource development reveals the emergence of a vast and important part of the corporate structure. The body of the outline focuses on trainees, training, and trainers in the language of business and industry or on students, instruction and teachers in the jargon of public education. More specifically, the broadened headings of Human Resource Pool, Human Resource Development, and Organization and Management of Training provide the overview of the state of the art of personnel development in business and industry. Summary statements will be made which are assessed to have an impact on the future direction of human resource development in both business and industry and in public vocational education. Included will be those predictions on the topic ventured by futurists.

Historical Sketch

Training for work in early America was accomplished primarily through apprenticeships which were the common method of training in Medieval Europe. The apprentice was indentured to a master craftsman for a period of time to learn a trade or profession and become a journeyman or professional practitioner such as a doctor or lawyer. "Indeed," wrote Patten (1971), "apprenticeship was the method of learning before aspects of subject matter to be learned, were identified, isolated, and packaged as related instruction to be taught in group situations in a classroom."

It follows naturally that artisans and craftsmen would form guilds for the purpose of exchanging ideas and controlling common interests for their own mutual benefit. Guilds, according to Steinmetz (1967), "created private franchise and at the same time established quality standards of products through quality standards of workmanship. These yeomanry guilds became the forerunner of the modern-day labor union."

Factory schools came into being just prior to the turn of the century. The rapid growth in business and industry demanded more master craftsmen than could be produced through the individualized apprenticeship process. The term "factory school" connotes group instruction and use of the printed subject matter and course content to supplement on-the-job training. "Such companies as Western Electric, Ford, and National Cash Register were in the forefront of this educational activity." (Steinmetz, 1967)

The early 1900's were marked by federal legislation for vocational education, the beginning of industrial training associations, and a period of minimal job training by business and industry until spurred to do more as a result of the World War I crisis. Correspondence schools emerged during the era and were supported as an additional means for training employees.

Again during the Great Depression years training was neglected by business and industry since the supply of trained manpower exceeded the needs. Governmental concern relative to these conditions of the times was reflected in the establishment of the Civilian Conservation Corps and the National Youth Administration which offered meaningful work and job training for young workers and students.

The emergency created by World War II stimulated a flurry of training activity in the factory and shipyard. The mid-1940's were characterized by the "J" programs. The Job Instructor Training (JIT) program was developed to train line supervisors how to train workers. The three-day course was given to almost 2 million line supervisors who, in turn, trained some 10 million workers. Other training programs in the "J" series were Job Relations Training (JRT), Job Methods Training (JMT), and Job Safety Training (JST). Program Development Training (PDT) was designed for executives who were unfamiliar with training techniques. It was during this concentrated effort on training that the position of "training director" was to become a common position in the management hierarchy of the corporation.

The American Society of Training Directors (ASTD) was formed in 1945. Now known as the American Society for Training and Development,

the professional organization for training personnel boasts some 10,000 members in numerous chapters across the country. While the Society provides its membership with a multitude of services, the most obvious is that of publishing the Training and Development Journal. Headquarters for ASTD is in Madison, Wisconsin.

"The early 1950's was a period of intensive supervisory training. The Hawthorne Studies of 30 years earlier were rediscovered, and the supervisor was seen as the key element in the work relationship. Although some HRD (Human Resource Development) specialists still insist on identifying needs, the general practice was that every supervisor needed human relations training. The demand increased and supervisory training even became a popular offering in public evening school." (Nadler, 1970)

"The decade of the 1960's was one of rapid, dramatic, and substantive technological, social and economic change. The period also marked the coming age of training and development. Because business, industry, military, and government organizations changed rapidly, owing to advancing technology and increasing scope and complexity of operations, all types of enterprises were forced to spend money and other resources for training." (Tracey, 1974)

Tracey (1974) accumulated data from several sources which reveal the scope of human resources development by business and industry in 1971. About 85 percent of the major industries were involved. The total pool of potential trainees in private, nonagricultural, nongovernment establishments numbered 57,836,000 employees. It is not known what percentage of these employees were priviledged to receive training, regardless of the type or the amount,

however, the range of several estimates of the total expenditure for training and development for the year was 20 to 25 billion dollars. Private business and industry were making a sizeable investment in human resource development. "In that we are in a new era socially and economically," Carter (1975) notes that "the time appears near when industry may be spending as much money to educate its employees as the country spends to educate its youth."

"Historically, in the United States the type and amount of job training in industry has been dependent upon changes in political, economic, and societal forces." (Wenig and Wolansky, 1972) "In the past fifty years, the industrial education function in America has evolved from an initial concentration upon the development of apprentices through the establishment of foreman training and later into executive development." (Patten, 1971) Training in business and industry continued to be called training down through the years. While still the most popular term used to explain instructional programs, the word "training" is slowly yielding to such terms as "personnel development" and "human resources development" which more adequately cover instruction in the cognitive and affective domains as well as that in the psychomotor or manipulative skills area.

The Human Resource Pool

The pool of potential trainees for business and industry takes in all employees but in reality not all in the pool are chosen to take advantage of some kind of training. While training is usually specified for selected employees as a means of fulfilling corporate goals and

needs, educational programs sponsored by business and industry are also extended occasionally to serve groups of people outside of the organizational structure such as family of employees, handicapped and disadvantaged, high school and college students, and retired persons. The ranges in ages, abilities, attitudes, educational levels, and other characteristics of trainees differ from one program to another but are much more homogeneous within a designated training context. The challenge to upgrade employees and to offer educational services to others in society is ever present and increasingly more important.

The big headache in business and industry is to determine who should be selected for training and by what means. Usually large numbers of employees do not get the opportunity to move up the corporate ladder because they do not qualify for management or executive development. Testing is designed to serve the corporation and then the individual and in that order.

"Tests reduce the costs of training new employees through improved selection of only those applicants whose test scores indicate higher aptitudes for learning to perform the work. Tests help the personnel and training managers to discover unsuspected talent in employees within the organization. It is usually economically and desirable that such employees be given opportunities to advance into positions of higher rank. This demonstrates the organization's policy of promoting from within the work force and tends to raise employee morale. A good testing program results in a large saving of dollars due to the reduction of employee turnover." (Youmans, 1967)

Governmental and societal pressures are on business and industry to validate tests on minorities. Equal rights enforcement agencies are scrutinizing tests validated on white male subjects which discriminate against other kinds of testees. Validation of a test on one reference group is costly; validation on several reference groups may not be worth the expense.

A second pressure on business and industry is to eliminate those selection devices validated on criteria other than job requirements. Selecting trainees on criteria other than requirements to do the job is discriminatory. One thrust of the women's movement is to have the content of jobs redefined prior to training people to fill them. Women are asking forcefully that jobs which have been built around brawn previously now be redefined so that they will be perfectly suitable for trained women.

There is a moral commitment by business and industry to train disadvantaged and handicapped for employment. Ginsberg and Hepburn (1972) "view the disadvantaged as simply people who have not been a part of an industrial urbanized complex." Geographical location, educational level, and cultural background have a decided influence on ones orientation to the industrial world. Industry is concerned and is training and employing some disadvantaged. There exists, however, a delicate balance between appeasing society on one hand and management on the other which insists on "pay-off" from training in terms of effective human resource development, greater productivity, and high worker morale.

The skill credentials of workers available to five major industries (apparel, food, health, construction, and transit) in New York City, was reflected in findings of research done by Brecher (1972). He found that "(1) none of the industries had any real difficulty in filling the skilled jobs; (2) in general, young people who pursued a vocational curriculum in high school do not learn enough to have a significant edge in obtaining employment in these industries and surely not for preferred access to skilled jobs; and (3) on the other hand, those who pursued a vocational curriculum in community colleges, particularly if they acquire an A.A. degree and passed the certification or licensing requirement, were in a preferred position to obtain skilled jobs." The findings would lead one to deduce that particular manipulative skills are mastered readily and, more than likely, on the job. The possession of technical competence, an associate degree, and a certificate or license -- a package of credentials -- are in demand in the workforce. Apparently at the post-secondary level of competence it is more advantageous for business and industry to recruit than to train.

Employees and young adults seeking employment have a general education which ranges in level from elementary to graduate and is rising. General education, especially at the lower levels, does not accommodate to the specific needs and beliefs of industrial systems. Industrial training builds upon the general education base, through specialized instruction which, for example, is expected to improve employment skills, reinforce industrial goals, cultivate policy image, etc. Corporations train employees for corporation benefits; employees enroll in training to improve their own positions in life.

Westley and Westley (1971) note that "the rising levels of education have produced more people who are potentially better able and more willing to participate in democratic processes, whether in the union, the factory, or nation. Fortunately or unfortunately, they conclude, this does not mean more peaceful industrial or political relations." One answer, or course, to directing employees' energies, desires, and potentials in constructive pursuits is for industry to meet employees continuing educational needs. Venn (1964) wrote that "there is little doubt that technology has created a new relationship between man, his education, and his work in which education is placed squarely between man and his work. Although this relationship has traditionally held for some men and some work, modern technology has advanced to the point where the relationship may now be said to exist for all men and for all work."

Manufacturing begins with uniform raw materials which are put through a series of regulated processes that result in a standard product. The manufacturing model cannot be applied to human resource development at any level since employees (raw materials) differ; a variety of instructional methods and techniques (processes) are used with similar results; and the journeymen or executives (products) of the training program are not alike. Directors of training know that the manufacturing model cannot be applied to training; industrial executives are slowly learing this truth.

Human Resource Development

The definition and purpose of training in business and industry are closely related. Many definitions and purposes are set forth; most have a noticeable or inferred profit motive written into them. Wenig and Wolansky (1972) defined job training in industry "as those training techniques which are worker oriented, not management or supervision oriented, and done during the regular working hours of occupation, and for which a minimum or beginning wage is paid." Smith (1964) states that "a worker's job experiences shape his behavior. The purpose of training is to guide the shaping so that he (the worker) becomes more interested in his work, more loyal to the organization, and more productive." Blake (1973) writes that "training professionals can help to create the conditions under which negative and apathetic attitudes toward productivity can be converted into positive attitudes toward productive work." Nadler (1970) says simply that "training has as its function the improvement on the job." Patten (1971) views industrial training as the "efforts that are made to facilitate the process we call learning and which results in on-the-job behavior required of a member or members of an individual organization." He feels that education and training are regarded today more than ever as crucial types of investment for the exploitation of modern technology.

How does one distinguish among such terms as training, education, personnel development, human resource development, and organizational development? From the historical review of the literature it was evident that the terms became more encompassing to reflect the true

instruction as it became more sophisticated. Originally, training meant job related learning experience for the skilled worker; today it is often used generically to refer to any industrial instruction.

The word "education" was and is not generally used in the industrial training literature. Education involved related learning experiences such as classroom instruction, field trips, and other cognitive dimensions. It is being used somewhat in corporate education centers and in executive training programs.

Personnel and human resource development seem to imply the upgrading of the whole person including the affective domain. It is usually reserved as a term applied to managerial and executive upgrading.

Organizational management means different things to different people. Tregoe (1974) sees it as "a process that (1) is deliberate and planned, (2) is sustained for a long period rather than being a one-shot dosage of medicine, (3) is aimed at improving the effectiveness of the total organization, and (4) has utilized behavioral science methodology." Wessman (1974) declares that "organizational development is typically defined by a series of assumptions or value statements about the usefulness of focusing on work groups rather than on the individual in order to improve the effectiveness of the organization."

While training is the most popular term used in referring to instruction in business and industry; it does not always provide an accurate clue to the instructional scope. Training can mean instruction should be characterized by such descriptive phrases as on-the-job experience, for skilled workers, over a short duration of time, at a reasonable cost. Personnel development and human resource development

are descriptive of a more comprehensive kind of instruction than training. The feeling is that the word "education" does not have much meaning in the industrial world.

It is ventured that human resource development in business and industry is supported at three rather distinct levels -- worker, supervisory, and manager/executive -- with proliferation by larger corporations. Specialized training, such as for sales persons, engineers, and scientists, does not fit well into the three-level classification. Small businesses are often limited to training at the worker (on-the-job) level; larger businesses may add supervisory training to its human resource development program; and corporate giants such as General Electric, International Business Machines, and American Telephone and Telegraph offer programs at all levels and for a variety of technical and professional needs on a regular schedule to fill their respective needs.

The following is an abbreviated description of a Management Training Program offered twice yearly at the Western Electric Education Center, Princeton, New Jersey. "The Management Training Program is a six-month program of general management training for a group of twelve to fourteen carefully selected second- and third-level supervisors.... The purpose of the program is to provide, for a select group of the highest potential people, a solid base of knowledge, skill, and values on which to construct a management career which will make a significant contribution to the business.... The training methods include reading, lecture-discussions, case discussions, role-playing and other varieties of sensitivity training, various forms of simulation training, special work projects, and skill practice with professional coaching....

In addition to Western Electric faculty, the program draws on a great variety of outside talent: journalists, labor relations arbitrators, government officials, foundation administrators, politicians, outside businessmen, consultants and university professors of business administration, economics, psychology, law and sociology. The fulltime program is divided into seven subject areas to form an integrated course in management. The areas are personal development, labor relations, administrative policies and practices, business and the economy, managerial controls, management science, and public affairs-community relations." (Western Electric) The rigor of the program to the trainee and the cost to the corporation are self-evident.

Management/executive training is done usually through executive development institutes such as those established by Chrysler, Westinghouse, and General Electric. In a survey of the fifty largest companies (in terms of sales as listed in the May, 1971 issue of Fortune) representing all industries, Lundberg and Associates (1973) found that "all responding firms, 93 percent, had management training programs." Companies without their own personnel development programs meet their needs through university programs, a rising number of management education courses offered by consulting organizations, and by attracting managers and executives from other corporations.

Some prospective managers and executives pursue advanced degrees and university programs on their own or are supported by industry through sabbatical leaves and tuition. Most corporations prefer to do their own human resource development especially at the manager level in that they have the opportunity to inculcate corporate philosophy, values, and behaviors desired of their leadership. Instructional content is specific

and condensed into intensive programs. Public education is less desirable since it prepares broadly; stresses societal values; and serves the asthetic, cultural, and intellectual enjoyment of individuals.

It is difficult, if not impossible, to make sweeping generalizations, without some qualifiers, in the broad and varied field of industrial personnel development. The ASTD Training and Development Handbook (1967), Patten's (1971) Management Planning and the Development of Human Resources, and Tracey's (1974) Managing Training and Development Systems, give 650, 737, and 480 pages respectively to the topic. To be brief and at the same time provide the overview, requires that a risk must be taken. Being aware of the conditions, general statements will be made in the areas of facilities, methods and materials, courses and programs, costs and evaluation.

Facilities. The facilities for industrial training can be characterized as being real and simulated laboratories. On-the-job training is done in a real shop under real conditions. Corporate education centers are designed for functional programs moreso than with classroom space. Learning facilities are constructed in strategic locations near universities, company plants, urban centers, and research laboratories to facilitate the use of these potential community resources. Corporate education centers, more often than not, house an extensive library and provide comfortable residential accommodations. The centers are public showplaces for the industry, and an inspiration to the trainee. They are engineered to provide an environment conducive to learning and change.

Methods and Materials. Industrial trainers use the full array of methods known to the field of education allowing specific instructional content and conditions to dictate the specific method. Many journal articles and large portions of textbooks on training and development explain how to use a method, suggest situations for using it, and delineate strengths and weaknesses of the method. Some commonly cited methods reviewed in the literature are case method, coaching, conference, games (managerial, business), programmed instruction, role-playing, and sensitivity training. The current literature appears to favor methods which are more applicable to personnel development than to manipulative skills training. The methods support cognitive and affective more than psychomotor learning. They are geared to training at the managerial/executive level moreso than at the worker/foreman level.

Instructional materials are used extensively by industrial trainers. Conditions such as limited instructional staff and a variety of training needs often require some form of individualized training. Programmed instruction, single concept films, slide/cassette sets, and correspondence courses partly fill the needs. The content and context of the factory, office, or shipping room becomes instructional material when utilized for teaching. The aggressive corporation cannot use training aids or instructional materials which are obsolete nor can it afford to invest in those which were not tested for learning effectiveness. Training directors, it is hinted at in the literature, are often too eager to purchase innovative kinds of materials not proven for their effectiveness.

Courses and Programs. A study by Schaefer and Kaufman (1971) describes the state of the art in industrial training in the State of Massachusetts. "The training programs provided by industry are most heavily concentrated at the operative and apprenticeship level. Most operative training is quite specific and prepares the worker only for particular jobs in the individual company. It lacks transfer value. Apprenticeship training is, of course, much more general and gives the worker a skill he can apply to a variety of settings. The large industries showed a high proportion of supervisory training... Almost one-fourth of the firms stated that they conducted no training programs... By far the predominant setting for industrial training is on-the-job during working hours. Large firms are more likely to provide in-plant and out-of-plant classes, in addition to on-the-job training."

Some comprehensiveness of formal training at the supervisory and professional levels is evidenced by the Graduate Engineering and Information Systems Education (G.E.I.S.E.) Educational Guide (1975) published by Western Electric at Princeton, New Jersey. The guide resembles a college catalog; it contains an academic philosophy, student information, schedules, courses, enrollment procedures, and information about summer and other programs. Courses are identified by code, course title and description, course objectives written in behavioral terms, major topics to be studied, prerequisites required to enroll in the course, and the number of hours to complete the course. Corporate education centers offer formal programs and courses commensurate with higher education offerings.

Barton-Dobenin and Hodgetts (1975) surveyed 822 firms in the State of Kansas to obtain views and philosophy on management training programs offered by consultants outside of the firms. Factors which influenced a firms selection of a management training program were "subject matter" followed by "qualifications of those sponsoring the program." Surprisingly, the factor given lowest importance was that of "cost of the program." They concluded that: "(1) firms are looking for programs which will provide ideas and concepts that the participants can take back to the job with them and apply, and (2) although the number of management training programs will increase drastically during the next decade, so will careful scrutinization of such programs."

Salinger (1975) studied disincentives to effective employee training and development. Disincentives revealed by the study in the area of courses and programs were that: "(1) behavioral objectives of training are often inprecise, (2) training programs external to the employing unit sometimes teach techniques and methods contrary to practices of the participants organization, and (3) timely information about programs external to an organization is often difficult to obtain."

Transcultural and/or cross-cultural training is becoming increasingly necessary as multicorporations are transacting more business internationally and mobility of their executives stretches across the world. Ackerman (1974), Director of Transcultural Training, Language House of Chicago, explains what transcultural training tries to do and why. She states that "transfer abroad is often as much an exercise in diplomacy as it is a business promotion. That's why training in the culture and mores of the receiving country is needed by the

transferee... and members of the family as well. Transcultural training works to change basic attitudes, teach skills, and build a positive mental set toward the transfer."

Harris and Harris (1972) justify cross-cultural training for employees with national as well as international positions. "Cross-cultural training should increase employee effectiveness when serving outside one's own country or when working within minority groups within the United States. It should contribute to improved customer relations, sales and good will. Hopefully, it will reduce waste, misunderstanding, and confusion in international business negotiations. At least, it will help foreign business to meet foreign competition with more sophistication. Such learning will also enable the employee to understand himself and his organization better. It may not only contribute to the process of acculturation abroad, but reduce the impact of 'future shock' as the emerging cyberculture replaces traditional society and its reference points. Certainly, cross-cultural education for today's personnel will prepare employees more realistically for the pluralistic one-world of tomorrow"!

Business and industry are or have been involved in such non-employee training as consumer training (franchise and brokerage house), cooperative education (all levels of secondary and post-secondary students), manpower pool training (minorities), and contract training for the government (Job Corps and MDTA), and public school systems (performance contracting). It is speculated that reasons for getting involved in the several kinds of non-employee training ranged from a feeling of altruism through the cultivation of future potential employees, the profit motive, and experimental testing of innovative educational concepts. The point

is that industrial training and development has exhibited pedagogical expertise outside its own domicile and, in essence, began to compete with public education in the development of human resources.

Cooperative education has created a good, strong relationship between industry and education. "Cooperative education is educationally sound to the extent that when it is properly administered it allows the theory of the classroom to be complemented by practical experience." (Patten, 1971) Industry's part of the cooperative effort is to provide the student (co-op., intern, extern, etc.) with practical experience.

Knowles and Associates (1972) cite two principal reasons business and industry support cooperative education. "First, they have jobs to be done. They find cooperative students able and enthusiastic workers and eager to learn. Second, cooperative education is and has been long recognized by employers as a useful device for the recruitment of permanent personnel." Knowles points out that "studies of employment records consistently show that employees who worked for an employer as cooperative students typically remain longer and are better employees than those who had no prior connection with the company. With the national spotlight now focused on off-campus experience as a way toward relevance in education, the future of cooperative education appears brighter than ever" -- barring a prolonged sluggish economy.

Costs. The costs of training and development are not readily available to the public and may not really be known within the business itself. Complex methods of accounting, which vary from one business to another, may or may not charge training costs to another department, allow for trainee expenses and wages, offset training costs with trainee production, etc.

Some broad generalizations have been uncovered in the search for information about the costs of training. Schaefer and Kaufman (1971), found that "the large firms tend to spend larger amounts on training... About half of the firms either did not wish or could not provide cost estimates."

Brecher (1972) found in his study "that the costs of upgrading tend to be ignored or minimized." The most successful effort in his study - "the upgrading of nurses aides to Licensed Practical Nurses - involved an expenditure in excess of $6,000 per person."

Barton-Dobenin and Hodgetts (1975) reviewed the costs of seminars as upgrading devices. They report that the "American Management Association grosses well over $10 million annually from its approximately 1600 seminars. Major universities account for another large percentage of the management training programs currently in existence. When the entire picture is brought into focus, there are approximately 18,000 trade associations and consultants and more than 2,000 private and public educational institutions in the United States conducting business seminars."

Ginsberg's foreword in the Breecher (1972) report discusses costs of training. He writes: "Training carries a cost. Employers are therefore careful to train only as many workers as they have openings. Moreover, they are careful to provide only enough training so that the worker can handle his new assignment effectively. To provide more would increase the probability that the worker will look around for a new job which would make use of his broadened competence and would pay more."

Boynton (1967) summarizes the economics of training in two

sentences: "The emphasis placed on training costs versus results will vary considerably, depending upon management's requirements. Some organizations will feel that the results justify any expense; others will run their training department with great caution."

Evaluation. Training directors are concerned about evaluation as a means of selling the training budget for the next fiscal year. Kirkpatrick (1967) writes that "the objectives of most training programs can be stated in terms of results such as: reduced turnover; reduced costs; improved efficiency; reduction in grievances; increase in quality and quantity of production; or improved morale which, it is hoped, will lead to some of the previously stated results. From an evaluation standpoint, it would be best to evaluate training programs directly in terms of results desired. There are, however, so many complicating factors that it is extremely difficult, if not impossible, to evaluate certain kinds of programs in terms of results. Therefore, it is recommended that training directors evaluate in terms of reaction, learning, and behavior."

McBeath (1974) writes that "training in general is difficult to assess statistically (above apprentice-type training where success may be quantified). Management training requires largely subjective assessment. The effectiveness of training in improving employee relationships generally, establishing effective practices and workable grievance procedures, can be judged by the frequency of problems referred back to department or other top management."

It would seem natural that top level management of profit-making firms would seek an evaluation of its training based on benefit-cost analysis and the assessment of measurable training objectives. Fauley (1975) acknowledges "that not all training programs lend themselves to the clean development of a cost model. If the behavior change resulting from your training program cannot be related in any way to dollars earned, any attempt to develop a cost model will be unsuccessful."

Lundberg, Dunbar, and Bayless (1973), referred to earlier, revealed that "no responding company they surveyed believed its program was ineffective, and only two out of 23 firms were uncertain about their program effectiveness. Many firms use two or more methods to measure program effectiveness, but many are not confident of the reliability of the measures used. While management training was judged to be largely effective, the reasons were not altogether clear."

Tracey (1974) prefers the term "control" in checking progress toward objectives to insure that timely action is taken to achieve objectives. "Control is the means of insuring that events, activities, progress, and results match plans. Effective control keeps plans and performance congruent. Adequate control is achieved by establishing measurable standards, comparing performance with the standards, identifying deviations and shortfalls, and applying corrective strategies to force performance to conform with plans."

Organization and Management of Training

Not all the firms in the United States train their employees. Small firms are inclined not to train. Those that do may adopt a formalized program or rely on outside sources to meet their training

needs. The large coprorations are heavily committed to formalized human resource development. Factors other than the size of industry, listed by Reith, (1967) which influence organization of a training program are type of industry, laws, company objectives and policies, nature of the labor market, customer requirements and acceleration of technology.

"Organizing involves identifying the functions and activities that must be conducted, grouping of those activities, and assigning each group to a leader with authority to manage." (Tracey, 1974) A one-man training program would consist of a training director with the major responsibility of coordinating training done on-the-job and under contract by outside sources. A five-man training organization may include such functions as skills and technical training, contract training, supervisor training, and training support services.

The organizational charts of large training programs and corporate education centers reveal expansion is a result of adding more functions and/or breaking down training functions into more discrete elements. Additional functions more likely to be found on the organizational charts of large training programs include management/executive training, professional and technical training, evaluation and research, non-employee training, trainee services, etc. The function of training and development in a large training organization, for example, can be sub-divided into such discrete areas as skills training, supervisory training, management training, technical and professional training, sales and dealer training, safety training, contract training, and orientation training with a person or team of persons responsible for each area. Support services of a large training organization could be sub-divided into such areas as instructor

training, training aids and media, educational reimbursement, scheduling, training publications, budgets and records, residential services, etc. Large training organizations and corporate education centers are nearly or totally independent with a hundred or more professional staff people who train several thousands of employees annually.

The staffing of formalized training programs is based on many variable factors. Daly (1967) reviews the expanse of business and industry within which a training director performs. "Training occurs in all types of industrial, business, and governmental organizations. Training occurs in big and small companies; in one location and in multi-location organizations. There are one-man training departments; there are training departments having 50 or more professional staff people. Some training staffs report locally to the line organizations, while others report to a higher staff level. In some instances, two training staffs at one location may report to different executives. Some training staffs act primarily as a consulting or coaching service to the line organization. In other organizations, the emphasis is on highly formal classroom activities within, or even outside, the organization. Training content ranges from basic company orientation all the way through the equivalent of university graduate-level courses. Employees trained range from unskilled laborers through top scientists and company presidents. The nature of training is wide and includes apprentice training, sales training, customer training, engineering education, foremen training, office training, management and executive development. Personal qualifications to man the training function vary widely on education and experience. In some situations, the training staff man acts primarily as an instructor, while in others he performs largely a coordination or administrative function."

The administrative head of an industrial training program generally holds the title of Training Director or Manager, Personnel Development. Of the 134 members listed in the 1975 Directory of the Central Ohio Chapter of ASTD, 56 used training and 20 used development in their respective titles. Other titles of directors and trainers reflect rank or position within the firm or training program, the kind and level of training being done, and past or present relationships with public education. Whitlock's (1967) studies found that "60 percent of the college majors of training directors he surveyed had majors in business administration, psychology, or education with the remaining 40 percent scattered over the college curriculums; and the training directors had no formal college training for the position but got it the hard way."

In a study of 238 ASTD members, Gossage (1968) produced a multi-statement profile of the training director. Those statements of specific interest to educators are as follows: "(1) he has had on-the-job experience in training and development prior to assuming duties as a training director; (2) he was employed for his first position on the basis of his formal education and his previous experience in training and education; (3) he believes his teaching experience is the single most valuable of all his previous work experience; (4) he has a bachelor's degree with a major in business administration or economics. One-third of the directors have a master's degree and it is probably in education or business; and, (5) the chances are two to one that he has never held a state-authorized education credential." Gossage's main conclusion is that "industrial training directors are required to perform educational

duties for which they have not received appropriate, organized instructions."

In-service education for trainers takes many forms. "Experience has shown that subject area specialists can be taught to teach in a relatively short period of time, whereas it is obvious that a man with a B.A. in education cannot quickly be provided with the four to six years of formal engineering education which he will require to teach advanced engineering subjects in industry." Reith (1967) Approaches used are company courses, conference leadership, college courses, seminars, personal coaching, workshops, and professional membership in ASTD.

The professional organization is stimulating continuing education and upgrading of its trainer membership. "For the first time, ASTD awarded continuing education units (CEU) to the membership who attended the 1975 National Conference. Simply stated, a CEU is a method of giving recognition for participation at conferences, seminars, workshops, etc. Based on 10 hours of attendance for one unit, the continuing education unit is a measure to demonstrate to an employer an individual's continuing education effort at his or her chosen profession."

The Training and Development Journal, published by ASTD, reflects the state of the art in industrial training. It is an important resource for the in-service trainer of employees. A superficial review of Volume 27, 1973 revealed that articles on a wealth of topics were contributed by authors from education, industry, the military, government and consultant agencies. Articles written by authors from education and industry equally

dominated the Volume. Of the authors designated as educators, half were associated with business management and administration with the remainder representative of many other college disciplines. One article was written by a vocational educator; about one in eight authors was a woman. The industrial training system is dependent upon the educators and scientists in the colleges and universities to delve into the unexplored and report findings to the profession through its professional journal.

Conclusions, Predictions, and Recommendations

The following fifteen conclusions, with no intended value judgements, are drawn about industrial training:

- Industrial training is so massive and varied that each generalization made about it has its exceptions.
- Industrial trainers operate almost wholly in a world separate from that of vocational education yet both worlds are similar.
- Industrial training is a private and somewhat guarded function. It is not really coordinated, standardized, or communicated among firms.
- The overall purpose of industrial training is to serve the firm or business by upgrading its human resources.
- Industry intentionally discriminates in the selection of trainees; it is careful not to overtrain them for the positions they are being prepared to hold.
- Industrial training is continuing education provided adult employees with some level of general education and an experiential base.
- Industrial training tends to be rather concrete, relevant, and purposeful. It is usually based on job analysis and guided by behavioral objectives.

- Industrial training in this century has grown from apprenticeships to multilevel human resource development programs. Its instructional capabilities have been recognized especially in the past decade by the federal government as a resource for helping train minorities and the unemployed.

- Transcultural and/or cross-cultural training is becoming increasingly necessary as multicorporations are transacting more business internationally and mobility of their skilled workers, managers, and executives stretches across the world.

- Business and industry are becoming more involved in non-employee training for reasons which range from a feeling of altruism through the profit motive to educational experimentation.

- Employers of cooperative students enthusiastically endorse the cooperative approach. Cooperative education has created a good strong relationship between industry and public education.

- Industrial training directors generally are from business management, business administration, or psychology who have had no college training for the positions they hold. Trainers are often technological specialists taught to teach in a short period of time.

- Industrial training journals and textbooks are contributed to more heavily by college faculty than any other group.

- Testing and evaluation are not strong areas within industrial training programs. Governmental and societal pressures are on industrial training to eliminate those selection devices validated on criteria other than job requirements and to validate its tests on minorities. Management is demanding more careful accountability from its training programs.

- It is not technology nor capital, but rather an adequate supply of competent employees that is the decisive factor of production and marketing in the established corporation. This realization has prompted business and industry to foster a closer relationship with educators and researchers in the educational institutions.

Predictions tend to prompt one to prepare to meet the conditions and/or circumstances forecasted. It is hoped the following nine predictions serve that purpose. They are as follows:

- "There appears to be no diminishment of industry's enthusiasm for training programs. Rather, all signs indicate that the future will see more of them than did the past." (Barton-Dobhein and Hodgetts, 1975)

- "There will be a need for a more effective interface among government, education, and industry. Interchanging personnel among these organizational systems will increase as problems intensify." (Lippitt, 1975)

- Job restructuring and worker participation in decision making will be used increasingly to cut down alienation and humanize technology. Education should be in the forefront in facilitating this change. (Idea from Taylor, 1974)

- "The executive shortage which has been experienced around the world will probably be with us in the next decade or more. The rise of the international business orientation prevalent among firms in leading countries throughout the world indicates that there will be an increased need for a new type of executive development, namely, that of manager competent to function in the multinational corporation and organization." (Patten, 1971)

- "A great deal of discussion has taken place about the role of liberal education in the development of executive talent for business. There is a growing movement in the direction of liberal education for executives." (Goldwin and Nelson, 1960)

- "Finally the industrial system must rely on the state for trained and educated manpower, now the decisive factor of production." (Galbraith, 1971)

- "We can see the integration of manpower planning, training programs and opportunities for learning in industry with the evolving and virtually all-encompassing legislative force in American society. The classroom and the factory are more than ever interconnected, and the same is true for the office and for the professional occupations." (Patten, 1971)

- "Industry is likely to become more international in character and to diversify its markets. It will have to be sensitive to societal values and assume more responsibility for its employees." (Tracey, 1974)

- "With the national spotlight now strongly focused on off-campus experience as a way toward relevance in education, the future of co-operative education appears brighter than ever." (Knowles and Associates, 1972)

Burt (1967) aptly wrote, "What is needed, more than ever before in the history of vocational education, is dynamic, constructive action to add new dimension and scope to its programs. It can achieve this goal to the extent it succeeds in making industrial participation, involvement, and identification with the schools a vital part of the total occupational education system of our nation."

The following action-oriented recommendations offer ways and means to strengthen the business-industry-education relationship in your state. It is recommended that you --

- Survey the scale and scope of your adult vocational training with the intent of offering more breadth and depth. In some areas there is a shortage of part-time (late afternoon, evening, and Saturday) training opportunities under public auspices for workers who seek to add to their skills.

- Make known to business and industry your expertise in the behavioral sciences and indicate your willingness to consult. Industrial management, for example, needs blueprints on how to more democratically release human potential to achieve high production.

- Look outside of education, to business and industry for direction in improving your curriculum otherwise obsolescence and stagnation may prevail. Base the curriculum on job analysis and move toward the use of behavioral objectives for instruction and evaluation.

- Expand your cooperative education programs to include more students in the school and more businesses in the community. This approach to teaching and learning is ideal for all parties. It must be nurtured to its full potential.

- Provide your students not only with technological skills but also, and perhaps more importantly, with human relations skills. Industry can overcome the technological skills deficiencies of its employees; modifying behaviors, values, and attitudes presents more difficulty.

- Become intimately familiar with human resource needs data in your state (use the employment service, contact employers, and refer to the literature). Then add and revise training programs to meet projected employment needs.

- Initiate an exchange program between your vocational education and industrial training staffs. Exchange visiting interns, externs, and trainers for visiting industrial professors, managers, and administrators.

- Encourage industrial training directors in your area or state to utilize the services of your educational institutions by having employees enroll in the courses which will assist them in their employment. This requires that the training director be fully informed about appropriate courses, costs, and admissions procedures. Hold the classes after working hours.

- Assess your state and local advisory committees on vocational education in terms of industrial representation and effectiveness in promoting training programs which produce graduates who are in demand by business and industry.

- Recognize that the employee-initiated, employee-directed process of skill acquisition is perhaps the most important of all mobility routes in business and industry. Enrich your courses and meet the needs of employed workers by generating a plan to recruit a percentage of this potential into your programs.

- Explore funding sources outside of education for support to train the unemployed and minorities, and to upgrade employed workers. The Department of Labor, revenue sharing agencies, business and industry, labor organizations, and others entertain proposals for fellowships, scholarships, and costs of training programs.

- Get actively involved with trainers and training directors of business and industry, government, and the military. Give more attention to relationships which emanate from memberships and participation in the professional training associations and meetings of business and industry.

Human resource development is complex and it is costly; it must not be done in an irresponsible way. By establishing formal or informal alliances of business and industry, education, and government at local, state and national levels, the well-being of our American society should be enhanced immeasurably. A carefully coordinated effort coupled with a comprehensive master plan will improve the articulation of training programs which can assure with a minimum of duplication and waste an ample supply of well trained workers. Hopefully, some vocational educators will be motivated to initiate some of the preceding recommendations and/or this proposed plan of action in their respective states.

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