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EMPLOYEE INVOLVEMENT PROGRAMS: LOOKING INWARD TO FILL THE AMERICAN WORKPLACE

Lisa M. Constance

Progress . . . is built upon the dreams and sweat of men, and the perseverance to conquer difficulties that seem, at times, overwhelming to the strongest. (Rehder and Smith, p. 85)

Introduction

What is the future of American industry if one-third of recent high-school graduates “cannot order two items from a lunch menu and then figure out how much change they are owed . . .?” (Whitman, p. 46) The widening gap between the number of skilled workers and the number of increasingly technical jobs of the twenty-first century is a crisis which threatens the businesses of the United States today. As the search for qualified workers becomes increasingly difficult and blue-collar responsibilities continue to fade into white, employers may find the solution by looking inward. In fact, right inside their doorsteps lies the wealth of an untapped resource — their present employees. Instead of looking outward to the labor market, employers should direct more of their efforts toward educating and training their own workers. The purpose of employee involvement programs is usually to improve production or quality; but these programs may also lend themselves to increasing the knowledge and skill of workers. By implementing such programs, businesses may lessen the impact of the skills gap on their productivity and profit margins.

In this paper I will discuss the two causes of the skills gap: the shortage of skilled workers and the technological advance in blue-collar jobs. Next I will consider the impact of the skills gap on individual businesses and the economy. Finally, I will describe three types of employee involvement programs and show how these programs may solve the skills gap problems of employers.

The Skills Gap

Worker Shortage

The first factor responsible for this widening skills gap is the dramatic shortage of skilled
workers which exists in the U.S. today. Half of all young Americans now entering the work force have neither attended college nor have the skills required for today’s complicated jobs. (Whitman, p. 45) Furthermore, it is not likely that this group of workers will be able to acquire the necessary knowledge. Approximately 25 percent of the American labor force lacks the basic reading, writing and mathematical skills needed to solve elementary problems in the modern workplace. Expecting this disadvantaged group of workers to perform in the more complex job positions is extremely difficult because the literacy problems make job training difficult, if not impossible. According to Don Fifer of General Motors, “Incredible as it may seem, we get apprenticeship applicants who say they want to go into diemaking because they are interested in working with colors.” (Taylor, p. 47)

The 1990s will mark the end of a labor force dominated by the white male worker, traditionally this country’s most educated employee. Over the next decade, 57 percent of the growth in the work force will consist of Black, Hispanic, and other minority workers. Although Whites, Blacks and Hispanics currently comprise 80 percent, 12 percent and 9 percent, respectively, of the disadvantaged members of the work force, these numbers are changing in a way such that the proportion of minorities, those least likely to have received adequate schooling, is increasing. (Whitman, p. 47) The shift in the racial composition of this group toward more poorly educated minorities will worsen the shortage of skilled labor in the future.

Contrary to the popular belief that individuals who do not attend college do not play a vital role in the economy, future progress will be as much dependent upon the less educated worker as upon the Harvard graduate. According to Merry I. White, “Much of the success of Japan stems from the fact that its blue-collar workers can interpret advanced mathematics, read complex engineering blueprints, and perform sophisticated tasks on the factory floor far better than blue collars in the U.S.” (Nussbaum, p. 101) All of a country’s firms within the same industry tend to face the same economic conditions, e.g., the same input prices, exchange rates, inflation level, consumer demand, etc. Therefore, it is the quality of human capital which becomes the differentiating factor among competitors.

Another factor contributing to the skilled labor shortage is the end of the baby boom in the mid-1960s. Although there already exists a shortage of young Americans able to fill current job openings, experts predict that by early in the next century the shortage will rise to over 23 million workers. (Whitman, p. 46) Over the next ten years, the growth in the labor supply will be such that by the year 2000, one out of every four Americans will be age 60 or older. (Pepper, p. 3)

Another reason for the shrinkage of the skilled labor force is the fact that experienced workers who acquired their skills during World War II are now retiring at a rapid rate. In addition, the inclination of even the least academically-oriented students is increasingly toward college and white-collar careers as opposed to technical education and blue-collar jobs. The lack of status, the physical demands, and the unattractive work setting of many blue-collar positions push individuals toward other ambitions. (Taylor, p. 47)

The Evolving Workplace

The second cause of the widening skills gap is the increase in the skills required as firms place more demands on blue-collar workers. Changes in the nature of the responsibilities of blue-collar work have been characterized by a greater concern on the part of workers with information and people and a lesser concern with physical output and equipment. Additional responsibilities include more independent decision making, problem solving, and interaction with customers. Increasingly, the responsibility of quality and cost control has been shifted to the worker, a trend which stems from the thinking that the individual performing the task is the one most qualified to make decisions about it. Employees are thereby gaining more control over the manufacturing process and the quality of the products which they produce.
Technological advances transform simple jobs into ones which require highly-skilled, free-thinking workers. As routine work becomes automated, employees must adapt to this knowledge-intensive environment. For example, as the typewriter is replaced by the word processor, secretaries must master computers. As the assembly line process becomes more technologically complex, production workers must read gauges and interpret printouts to monitor quality. Formerly, workers were able to see for themselves how machines worked; but new machines now have undetectable microprocessors and electronic components which must be understood.

**Effects**

While blue-collar jobs reach new heights in complexity, the disadvantaged portion of the work force continues to fall further behind in educational and skill development, thus creating a mismatch between workers and jobs. Businesses ranging from the small privately owned shop to the large manufacturing organization are finding the task of hiring workers to replace retirees or to fill new positions increasingly difficult. As far back as 1981 Alexander Taylor pointed out that "at a time when one in thirteen U.S. workers is unemployed, jobs by the hundred of thousands in many of the economy's most vital sectors are going begging for the lack of trained people." (Taylor, p. 46)

The negative impact of the skills gap can be seen on the shop floors of America's plants and factories. One good example can be found in the metalworking industry, where there is a shortage of skilled metalworkers. A large number of manufacturers have had to subcontract work to machine-tool companies to fulfill their metalworking needs, which include tools, drills, lathes, and presses. Because of the shortage of skilled metalworkers, the relatively small number of machine-tool companies cannot meet total demand. Manufacturers which once relied upon these domestic suppliers are resorting to imports from West Germany and Japan, which now comprise 25 percent of the American market. In 1981, America's share of the world market in machine tools had plummeted to 7 percent from 21 percent in 1964. Thus this labor shortage in the machine-tool industry has led to a decline in America's power in this sector of the economy. (Taylor, p. 46)

**Employee Involvement Programs**

If firms desire to be competitive and successful in the future, corporate management will have to develop its own plans to fill the void created by the skills gap. As was recognized long ago by Adam Smith in *The Wealth of Nations*, these plans should revolve around training employees to perform the needed tasks. "A man educated at the expense of much labour and time to any of those employments which require extraordinary dexterity and skill may be compared to one of those expensive machines.” (Smith, p. 101)

Employee involvement programs provide a framework within which employee education and training may be attained. Several types of programs of this orientation have been successful: the Pay-For-Knowledge System at the Shell Sarnia Chemical Plant, the self-managing teams at New United Motor Manufacturing, Inc., and the quality-control-circle-based programs at Douglas & Lomason and International Flavors & Fragrances, Inc. I will now describe each of these programs and explain how they may serve as solutions to the skills gap problems of employers.

**The Pay-For-Knowledge System**

When the organization design of the Shell Sarnia Chemical Plant began in 1975, the philosophies of worker participation and education from within the organization remained in the forefront of the planning. The designers aimed to solve many problems which usually accompanied organization design, such as the under-utilization of employees and the lack of opportunities for employee growth. A "statement of philosophy" was formulated which acknowledged that employees are responsible, trustworthy individuals who should be allowed to make contributions to the best of their ability and to grow to their fullest potential. This statement became the foundation of the plant's worker organization. It recognized that certain employee needs had to be met, such as
continuous on-the-job learning and opportunities for decision-making in which workers would be able to exercise their own discretion.

An employee involvement program called the Pay-For-Knowledge System was incorporated into Shell Sarnia Chemical Plant's organization design with the goal of fulfilling these employee needs. Under what amounts to a system of unrestricted skill progression, a worker's progress in the organization is measured by his reaching grade levels or competence levels based on skills attained, rather than by job titles or assignments. A group of employees, with representatives from each work shift in the plant, developed the job skills training system.

Each shift team designates a training coordinator who is responsible for organizing the on-the-job training of workers. Because the system is flexible, the coordinator may adapt training to suit the needs of a particular shift team or the special interests of a worker. For example, after acquiring basic operations or process knowledge, a worker may choose to master one or more of the many specialty skills. These include warehousing, production scheduling, maintenance, and different laboratory-related skills. The training coordinator relinquishes his position to another team member according to the specific rules developed by that particular team. Written tests, demonstration tests, and operations tests are used to determine when a worker has mastered a skill. In order to receive a raise, a worker must master a skill and then spend a certain amount of time performing it on the job.

Through this progression system, "the need to be able to learn on the job and go on learning" has been fulfilled. (Schneider, p. 4) As is evidenced by the successful operation of the Shell Sarnia Chemical Plant, the problem of the skills gap has been solved by educating current employees.

Self-Managing Teams

Another example of employee involvement programs takes the form of self-managing teams. These have resulted from the evolution of worker participation programs. Worker participation programs in the United States have evolved over time with respect to structure and function and have gone through three stages: 1) problem-solving teams, begun in the 1920s but not widely used until the late 1970s; 2) special purpose teams, used since the early 1980s; and 3) self-managing teams, which spread rapidly in the mid-1980s.

Problem-solving teams are usually composed of five to twelve volunteers who represent various departmental areas. These volunteers meet one or two hours a week to discuss quality improvement possibilities, efficiency and the general work environment; however, they have no authority to implement their ideas.

Special purpose teams are more participatory in nature and encourage employee involvement in decision making. Team members may design and introduce work reforms or new technology, meet with customers and suppliers, and contribute to operational decisions while working side-by-side with managers.

Self-managing teams are the most advanced form of worker participation, offering educational opportunities to workers because they require multi-skilled individuals, thereby offering an answer to the skills gap dilemma. Here, five to fifteen workers trained in all tasks work together to produce an entire product. Job rotation is possible because every worker is capable of performing every task. Self-managing teams also have managerial responsibilities, such as work and vacation scheduling and material ordering. The self-managing team concept thus serves to tap the energies, knowledge, and skills of workers to the greatest extent. (Hoerr, p. 57)

The concept is now spreading rapidly and has been most successfully established at New United Motor Manufacturing, Inc. (NUMMI), a joint venture of General Motors and Toyota. General Motors is seeking to implement this idea in its other plants, as well. Other auto-industry giants, such as Chrysler and Ford, are following suit, as are members of the aerospace, electronics, paper, food processing, and financial services industries.

Self-managing teams can benefit both the organization and the employee. Organizational gains include improved quality, increased cus-
tomer satisfaction, and higher productivity. Employees enjoy better relations with management, more job security, and a heightened sense of well-being and responsibility. Significantly, this concept also affords the greatest opportunity to increase workers' skills and knowledge.

In setting up self-managing teams, reducing the number of job classifications is the first step management must take towards establishing team production. Traditional rigid and numerous job classification systems are mainly used for accounting convenience or because it is considered more efficient to spend less time training an individual to do a small part of a job than to spend more time training him to do the complete job. The fewer job classifications which the self-managing team concept provides allow the freedom necessary to achieve production goals because the most capable worker may be quickly placed into a job when necessary. An employee is always available to fill in for an absentee, and it is not necessary to hire extra people if an increase in production is called for. Layoffs are avoided since workers can simply be reassigned to other tasks when demand declines. Doris White, a NUMMI employee who had worked at the plant when it was owned solely by General Motors, states that she has learned seven jobs since she came to work at NUMMI, compared with only one in her previous nine years at GM. (Levin, p. 6)

Each team has a leader who is expected to be adept at every operation performed by its members. He is responsible for instructing others in the operations, by checking parts and equipment, doing repairs, developing standards and otherwise coordinating work. Team leaders, who also act as employee involvement motivators, are trained in technical assembly operations. The team leader role is in itself a training ground for future managers in as much as these individuals have a practical knowledge of workers' outlooks, needs, attitudes and desires.

Quality-Control-Circle-Based Programs

Employee involvement programs based on quality control circles are a third effective solution to the problem of the skills gap. However, the educational aspects of this type of program differ from those of the Pay-For-Knowledge System and self-managing teams. While the Pay-For-Knowledge System and the self-managing-team concept provide skill-oriented training, the quality control circle provides education with respect to decision making, quality control, and other managerial-type responsibilities which have been introduced more and more into the realm of the blue-collar job.

A quality control circle is a group of employees who meet on a regular basis to study production or service problems related to the work they perform. For example, the circle members might focus on a quality problem in a product. The problem is discussed and then analyzed using charts, graphs, and statistical techniques. Members then take the appropriate steps to identify and implement a solution. The keys to the success of quality control circles are a firm's training of its employees in the essential techniques needed to investigate and solve problems and its commitment to employee involvement. (Ouchi, pp. 262-264)

Douglas & Lomason

Douglas & Lomason, a car-seat manufacturer located in Michigan, has implemented an employee involvement program based on the theory of quality control circles. Part of company policy awareness includes employees being informed about the employee involvement program. The worker views a film about the program and meets with the program facilitator, who coordinates all employee involvement activities including introducing new employees to the program and groups. Membership in the program is voluntary and may begin or end at any time during employment.

New members of the program attend a member training course for one hour once or twice a week. Taught by the facilitator and group leader, they learn brainstorming techniques, investigative techniques, process and solution analysis, data usage, chart and graph development, histogram design, and effective management presentation style. All are skills useful in solving work-related problems.
Each group decides on a leader, a co-leader, and a secretary. The leader and co-leader attend a two-day leader training course conducted by the Manager of Employee Involvement Training and Development. The course material includes a history of employee involvement, group dynamics, a technique review, and a practice test.

Employee involvement groups are comprised of four to twelve people who perform work in the same areas so that the problems each recognizes will be familiar to all. The group meets voluntarily for one hour per week and decides upon a work-related problem which needs to be solved. Members use the techniques learned to analyze and solve the problem, and then the proposed solution is presented to management. Upon management approval, the solution is implemented by the appropriate department. A new project is then chosen by the group and the cycle begins once again.

Group effort and achievement are recognized through awarding one point per meeting and four points per project implemented to each member. Points may be accumulated and turned in for various items, such as shirts and jackets. Group accomplishments are acknowledged in company publications, in posted articles and photos, and at dinners at which certificates of completion are presented.

Douglas & Lomason's employee involvement program obtains worker participation and involvement at all organizational levels and develops leadership and problem-solving skills traditionally associated with management roles. In 1988, approximately 6 percent of the workers who participated in the employee involvement program were promoted to various areas of increasing responsibility throughout the firm. (Douglas & Lomason, 1989) Rather than looking to a poorly educated labor supply, Douglas & Lomason has filled advanced job openings with individuals found within their company.

The Better Way

Another example of an employee involvement program of the quality-control-circle type is The Better Way, founded in 1981 at International Flavors & Fragrances, Inc. (IFF). The program is similar to that of Douglas & Lomason except that team member training takes place on the job during the first year of a team's existence rather than in a separate member training course. The Better Way program boasts an employee participation rate of 30 percent. (According to Michael D'Aromando, Manager of Training and Development at IFF, the average at other companies is 10–15 percent.) The program consists of a set of policies and procedures which encourages workers to continually make suggestions for work-related improvement and motivates management to consider and implement these ideas when feasible.

The keys to The Better Way's success at IFF are both executive and monetary commitment. The need for executive commitment to an employee involvement program deserves further explanation. The most difficult part of implementing such a program is overcoming the resistance of managers who see increased employee participation as a threat to their power. In order to ensure that managers realize that the determination for program success flows from the top of the organizational chart downward, constant executive support must always be evident.

Executive commitment also involves the realization that the preliminary steps of opening communication and developing and training people must be taken before technical results, cost cutting and increased productivity can be realized. In a successful employee involvement program, communication problems and complaint-type issues must be solved before pressing for solutions to performance and productivity problems.

In Mr. D'Aromando's opinion, the essence of The Better Way program is giving "thinking workers" opportunities to both influence management and become managers themselves. Individuals are given an opportunity to lead without any threat to their jobs. Workers in team leadership roles are seen as leaders with job growth potential. The management, human resource, and personnel oriented experience and training gained qualify these individuals for managerial positions. In fact, 90 percent of
Both the link among these programs and the key to their success. In the Pay-For-Knowledge System, workers are motivated to learn through monetary rewards, encouragement, and recognition of their potential. A feeling of responsibility to the group motivates members of a self-managing team to become educated in the necessary areas. In quality-control-circle-based programs, management motivates employees to be committed to quality and to learn the skills to improve it through instilling pride, rewarding group efforts, and giving leadership opportunities.

In addition to recognizing these objectives, each of the organizations discussed here has taken into consideration its own unique philosophies and specific needs in order to ensure the program's success. In the face of a widening skills gap, employee involvement programs can thus provide American workers with the education that allows firms to fill their job openings by looking inward.

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