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Employment Practices and Trends in Large Industry

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My purpose in being here today is to present a picture of employment practices and trends in large industry. My experience is largely with the aerospace industry and as a result my background is not as fully rounded as it might otherwise be. However, let me stress the fact that the aerospace industry is the largest employer in the United States today, larger even than the automobile industry. Also, aerospace employs one-third of all engineers and scientists in this country.

The thesis of my paper today is applicable to virtually all sizes and types of industry:

1. In the performance of particular jobs industry is finding that it needs fewer but better qualified employees. From 1947 to 1964 the industrial output of this country doubled. During that same period the number of blue collar workers diminished. The aerospace industry in particular is finding itself in the curious position of laying off and hiring at the same time and often in the same occupations. They are finding that employees in even the most static jobs such as the machinist trade are having to retrain and upgrade their skills.

2. In all jobs at all levels, there is a growing need for a return to the concept of craftsmanship. Our technological growth has created a monster called the "production-line-job." The word "quality" has been replaced by the word "parameter" and the most important aspect of the job has become quantity production within the limits of certain parameters. The employee is no longer as proud of the thing he is produc-

ing as he is of the number of things he can produce and get by the inspector.

Finding the Job.

Into this scene now enters the deaf applicant. When distinguishing him from other applicants four points are outstanding:

1.   Generally, the deaf applicant for a job does an inadequate job of filling out the employment application. In the aerospace industry particularly, this can be serious because of the nature of the security clearances which are sometimes granted. The application generally is incomplete, not very descriptive of past jobs, and not neat. The counselor can help in this area by training the client and/or helping him with the form.

2.   The deaf applicant who comes into an employment office with an interpreter naturally raises the question of what will happen when this employee tries to communicate on the job? Even if it means pencil and pad, the deaf applicant should represent himself in the employment interview.

3.   Every interviewer to whom I have spoken after their initial contact with a deaf applicant, is overwhelmed by the deaf personality in conversation. They talk of the animation, expressiveness and general friendliness of the person they met. This can work in the deaf applicant's favor if he takes advantage of it by avoiding interpreters and trying to communicate on his own.

4.   The state vocational rehabilitation service offers services to the company hiring a deaf person which virtually no employee coming in off the street can ever offer. The results of tests, counseling interviews, examinations, history profiles and training are all plus factors for the company. These services should be used by more deaf applicants and they should also be used by the counselor to sell the deaf client to industry.

Holding the Job.

Once the deaf person is hired, there are several things which, in my experience, seem to work against him and several which tend to work for him. First, let us look at the negative points:

1.   Initial on the job training is very difficult with the deaf employee; indeed initial communication of any kind is difficult. In large industry, there is often a vestibule training program which serves to orient the employee to the company and sometimes to the particular skills required by his job.

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This is especially true in entry-level jobs. Some of Lockheed's vestibule training programs were on soldering (40 hours), spot welding (80 hours), drafting (80 hours), etc.

2. The deaf employee's work personality, as described by Craig and Silver (1966), is often a negative influence on the possibilities of advancement within the company and/or on the hiring of other deaf employees. Some examples of common error are:

    a.   Not calling in when absent.
    b.   Not taking the job, supervisor, or job instructions seriously.
    c.   Constant talking or socializing on the job.
    d.   Bickering over petty differences in pay, job descriptions and status symbols.

3. On the positive side, a good selling point for employing the deaf is their safety record in industry. At Lockheed there are approximately 65 deaf employees with a mean seniority of seven years. Not one of them has had a single lost-time accident. This is an excellent record. It should be touted and shown to employers.

4. Interviewers are sometimes afraid that the deaf employees will not get along with the hearing employees. This simply is not so. While visiting an area in Lockheed, I once saw two deaf employees finger spelling using the two-handed alphabet. I stopped to ask why they were using such a laborious method of communication. They replied that so many of the hearing employees had learned fingerspelling and signs that in order to communicate in private, they had to resort to this alphabet!

5. Manual dexterity. You know it. Your client probably knows it. Does the employer? There are many jobs which require manual dexterity and very little beyond that. In fact, numerous companies are willing to train the person who has good manual dexterity, if they can find him. It sometimes takes rather unorthodox methods to bring this to the attention of the employer. One company which would not even consider deaf applicants had two deaf girls slip into a group taking manual dexterity tests. They so shattered the test scores that the company was forced to look at deaf applicants.

6. In one area within Lockheed we have to use manufacturing aids which required the use of expensive audio visual equipment which had piped-in music to prevent boredom. For the deaf we were able to dispense with this expensive equip-

ment and use a loose-leaf notebook with 8 x 10 color pictures and written instructions.

7.   Finally, in many aerospace and electronic companies there exists environment controlled, dust-free rooms. The environment in these rooms are as close to sterile as the company can make them. Soundproofing is a byproduct of all this effort to control environment. We found that in some cases, the hearing employees could not work in such a quiet environment and we had to pipe in music. Not so with the deaf employee.

So now we see a very general employment trend in large industry and we see the deaf applicant and the deaf employee through eyes of this biased observer. Now lets look more closely at particular job trends in major industry and see what specific occupations are being created and/or are requiring more and more manpower. First, when it comes to major trends in industry, we may as well admit that the name of the game is technology. Although there are upward trends in some blue collar jobs, the proportionate number of upward blue collar versus upward white collar job is diminishing rapidly.

Automation has created a variety of new jobs and rather than spend our time investigating the question of: "Has automation created more or destroyed more jobs?", let us realize that like taxation and sex it is with us and bad or good we must live with it. The jobs created by automation interpreted broadly, vary tremendously. Let me name a few:

1.   Keypunch operators are in great demand and there seems to be no let up in the demand.

2.   Numerical control machinists and programmers are beginning to creep into large industry. They are more often found in areas of high production and not too often in aerospace.

3.   Computer operators are quasi-white collar people. Most companies are now requiring at least two years of college for these people. At Lockheed most of our operators have a four year college education.

4.   Peripheral jobs in a computer center are many and varied. People are needed to maintain the magnetic tape and disc libraries, to act as dispatchers, to operate the smaller peripheral punched card equipment, and to operate bursting and decollating machines.

5.   Technicians are required with two years of electronics at the college level to repair hardware malfunctions in com-

puters and peripheral equipment.

6.   Programmers are required in business, statistical, scientific, and software programming. This need is the most pronounced and requires the most skill. Communication on the part of the programmers in large industry is minimal or nonexistant. I know many who operate in an almost total vacuum with respect to communicating with others. In smaller companies, this may not be so, but in large companies it is.

Let us look at the general area of applied science. In general, these are the people who take the principles discovered by scientists and use them to develop ideas and devices which serve mankind. Who are they?

1.   Mechanical and electrical engineers. The demand for these people in the quantities of ten years ago is reduced, but a large demand is still there, and the more recent the training, the better.

2.   Mechanical and electronic technicians. These are quasi-white collar workers. Two years of college are required and more responsibility is assigned. Many of the engineer's tasks of ten years ago are now being performed by these technicians.

3.   Mechanical and electronic assemblers. The new methods used in industry today for assembly such as spot welding, crimping, wire wrapping, staking, soldering, and swagging in electronics are virtually all new and people are needed with manual dexterity to work with these are methods.

4.   Draftsmen. Like technicians, draftsmen are taking more of the engineer's job. There is a great need for these people. Contrary to the belief of many, the computer has a long way to go before it replaces the draftsman for he does a great deal more than draw.

5.   Instrumentation and automatic control. This is a relatively new sub-field. We are becoming so immersed in automated systems that people need more devices to control the monsters they are creating. Workers in instrumentation and automatic control are creating the devices and mechanisms which automatic systems are rontrolled.

6.   X-ray diffraction. This is one aspect of non-destruct testing that is becoming more and more important to major industry in their concern for quality parts, material and equipment. This enables companies to test parts without destroying them.

Now, for just a moment, let us take a real look into some

of the fields which are unheard of only a few years ago. This is where schools like Gallaudet and the new National Technical Institute for the Deaf can direct some of their efforts for long term payoffs.

1.   Oceanology is the study of our newest frontier. It is being explored from under and on the water as well as in the lab and in satellites. The field is new to this rountry. The aerospace industry is jumping into this area and it needs people. This need is going to become paramount in the next five years.

2.   Operations research is the field which is taking a look at nearly every activity in which we engage from driving through traffic jams to running a factory. The operations research analyst uses the tool of mathematics to define, analyze and refine or modify current practices in a fantastically diverse variety of operations.

3.   Educational and communications technology. How did you learn what you know of English and why did you buy that Volkswagen instead of the Chevrolet? How can you be made to learn English better and faster and how can Chevrolet win you back or Volkswagen sell you two cars instead of one? Education and communication technology is a step in the direction of answering these questions. The educational technologist wants people to learn more, faster and thoroughly. He is not an audio-visual man. He is using programmed instruction, audio-visual devices and the principles of art and design in planning courses, classrooms and entire buildings.

This is the picture I paint of large industry and call practices and trends. And right about now, the Vocational Rehabilitation counselor is sitting out there and saying: "So what! Where does that leave me with my forty year old, under achieving, non-trained clients?"

Large industry has many jobs which are blue collar jobs and require virtually no previous training. They do, however, require "personality." By that I mean a certain intellectual level, Strong Vocational Interest score, reading level, Minnesota Spatial Score, Manual Dexterity, Etc.—literally, a "personality template." To get these employees, industry will either hire people and take educated guesses at their probable success or engage in a costly testing program. The vocational counselor should talk to local industry and learn which jobs fall into this category. He should then learn from the employment people what the parameters are for entry into these jobs and then begin a testing program to locate the forty year old, underachieving clients who fit the personality tem-

plate for those jobs.

Once the counselor has found them and the company hires them, he should not close the case. He should go in and offer to either train these new employees or provide interpreting service for them when the company trains them. He is then an interpreter advisor and counselor or a provider of those services.

What else can the counselor do? Develop the "craftsman" in your client. I am not suggesting that he set about to change the attitude of the client. The craftsman approach to which I am referring is best summarized in a speech given to a group of secondary and post secondary educators in California by the employment manager for Lockheed. He is now the Director of Manpower Planning for the Lockheed Aircraft Corporation. In part, he said this:

> "I wonder how often work is discussed in our schools? I know that school work and careers and occupations and the like are discussed, but how often is work, as a subject in itself discussed? That is really the basic nature of your job, isn't it?—preparing your students for life's work. I really do not know how one goes about it but it seems that, in addition to providing the student with the basic tools for work in the way of knowledge and skills, we need to give him an appreciation for work and a desire, inspiration if you will, to do well, to strive for excellence."

Somehow we must counteract the feeling, the belief that to work with one's hands, to be a blue-collar worker, is undignified. I am sertain that many of our drop-outs are drop-outs because they fear that they cannot qualify as a white-collar worker. I am certain that there are boys and girls, young men and women who carry college preparatory courses in high school and then linger on in the junior colleges and universities because they cannot admit to themselves, nor will their parents admit, that they have aptitudes for something other than white-collar occupations. I am certain that we need to change this attitude before we in industry can expect to obtain the kinds of skilled and semi-skilled workers we must have.

REFERENCE

Craig, W. N. and Silver, N. H. "Examination of Selected Employment Problems of the Deaf." *American Annals of the Deaf*, September, 1966.