

TRAINING WITHIN INDUSTRY BULLETIN SERIES

Bureau of Training
War Manpower Commission

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TYING-IN PRE-EMPLOYMENT TRAINING WITH ON-THE-JOB TRAINING

Training prior to employment helps shorten the time needed for developing skill on the job. With pre-employment instruction, the new employee earns the new job more quickly. He adjusts himself more readily to factory surroundings. He grasps sooner the language of the factory. And more important, he acquires beginnings skill. Thus, a shorter break-in period is required before the new worker reaches good production standards.

Pre-employment training is most valuable when it is closely related to the job that the prospective worker will fill. When pointed toward a specific job, it has greater appeal and the student is more eager to learn. The result is better training.

This bulletin is based upon programs in successful operation. Experience shows that success depends upon a sound relationship between instruction under public auspices and training in the factory.

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Training Within Industry

PURPOSE OF PRE-EMPLOYMENT TRAINING

The chief purpose of instruction in advance of employment in war production is to enable the worker to perform his tasks more effectively and reach production efficiency more rapidly when he goes on the job. The beginner becomes acquainted with the tools, machines, and materials employed in the industry where he will work and acquires operational skills based upon routines and safeguards in common use.

NATURE OF PRE-EMPLOYMENT TRAINING

This form of training calls for (1) instruction in the ways of factory life; (2) introduction to machines, tools, and materials; and (3) the acquiring of beginner's skill with a particular machine.

INSTRUCTION IN FACTORY WAYS

Among others, the following routines and practices should be stressed:

1. Safety

Safety should be emphasized from the very beginning for first impressions are lasting. The beginner should be taught the use of goggles, shields, and guards. His use of them where necessary should be stressed. He should be made acquainted with the destructive effect of centrifugal force as found in grinding wheels, fly wheels, and work in machines. He should learn how to lift man loads safely and he should be schooled in the precautions to be taken against industrial hazards. Industrial hazards peculiar to the job and safeguards against them must be made clear. He should be informed about safety shoes and suitable work clothes.

2. Shop Instructions

The prospective employee should understand the purpose of shop rules, booklets of information for employees, operation sheets, inspection forms, and other printed material designed for control and report purposes and for informing the worker. He should learn how to punch a time clock, know something about how the pay check is computed, and the prevailing methods of payment whether by check or in cash.

3. Blueprints and Measurements

If the factory job requires that a person work from blueprints, the course should include such instruction. Elementary shop mathematics may also be needed. The instruction should be practical; illustrations and problems should be drawn from the local industry for which the employee is being prepared.

4. Manufacturing Process

An explanation of the flow of production through the shop is distinctly valuable. The description should refer to the industry in which the student is being trained, if that is possible. Production flow diagrams, assembly charts, and similar exhibits that indicate graphically the steps in the production process are very helpful. Information about the ultimate use of the product is of value in creating and maintaining interest.

In order to gear the pre-employment and supplementary training into the manufacturing process, many of the school shops are laid out as nearly as possible to duplicate the production lines of war production plants and the training is given around the production of selected parts that may go into the final production assembly.

TRAINING IN USE OF MACHINES AND TOOLS

Training of this character should be specific—on the machine or with the tools that the student will subsequently use. A smattering of skill should be avoided. It is better that the beginner be able to perform one or two simple operations than that he be superficially acquainted with several.

Whenever possible, the shop facilities for instruction should approximate those in the factory where the prospective employee will work. This refers especially to tools, machines, work benches, and similar equipment. When this ideal cannot be realized, the next best equipment available should be provided. The suggestions below regarding instruction may be helpful:

1. Machines

When training prospective workers for the machine shop or a metal working establishment, the simple cutting operation on an engine lathe is of great value in acquainting the student with the workings of power-driven tools. On this machine the student learns something about the process of cutting metal and about feeds and speeds. In addition, he becomes acquainted with cutting tools and how to grind them and the use of cutting solutions. He further grows familiar with the parts of the lathe and how to take care of the machine. This experience is a good base for later training in various cutting operations. Engine lathes are available almost everywhere.

2. Tools

Correct practice in the use and care of these instruments of production should receive major attention. It is common knowledge that some losses in the plant are due to new workers who have not yet mastered the best methods of using simple tools and measuring instruments although they consider themselves competent. It is important that beginners receive early training in the correct use and care of small tools and instruments. Since they are available generally, a good deal of demonstration and practice may be afforded.

While in the school shop it is possible to develop a fair degree of dexterity in the use of calipers, snap and plug gauges, and micrometers. This speeds the development of beginner's skill and discloses those who have mechanical aptitude.

3. Materials

The beginner should learn something about the materials used in the industry for which he is being prepared. With samples at hand, their characteristics and applications can be demonstrated. Reference should be made also to solutions, lubricants, cleaners, finishers, abrasives, adhesives, and so on.

AVAILABILITY OF PRE-EMPLOYMENT TRAINING

Pre-employment instruction in varying degrees is available in almost every locality. Public vocational and trade schools, public high schools, and many of the engineering colleges are ready and willing to offer their services. In addition, government agencies, especially the NYA, consider the needs and recommendations of industry in shaping the content of their pre-employment work projects.

SELECTION FOR PLACEMENT

While the primary object of pre-employment instruction is adjustment to the factory environment and the imparting of initial skill, this training should also reveal the individual employee's fitness for a job in industry.

Observation, instructor's ratings, and performance records, together with a suitable testing method, are helpful in grading the student with regard to general ability, speed of learning, and capacity to handle jobs at various levels of skill. Information of this character is highly valuable to placement officers in schools, the state employment office, and local factories.

CONDITIONS FOR BEST RESULTS

The closer the cooperation between the plant and the school, the greater the likelihood of satisfactory placements and success on the job. Being trained for a specific job and then being placed in that kind of work in a plant builds confidence on the part of the new worker and aids in prompt adjustment to the working conditions.

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