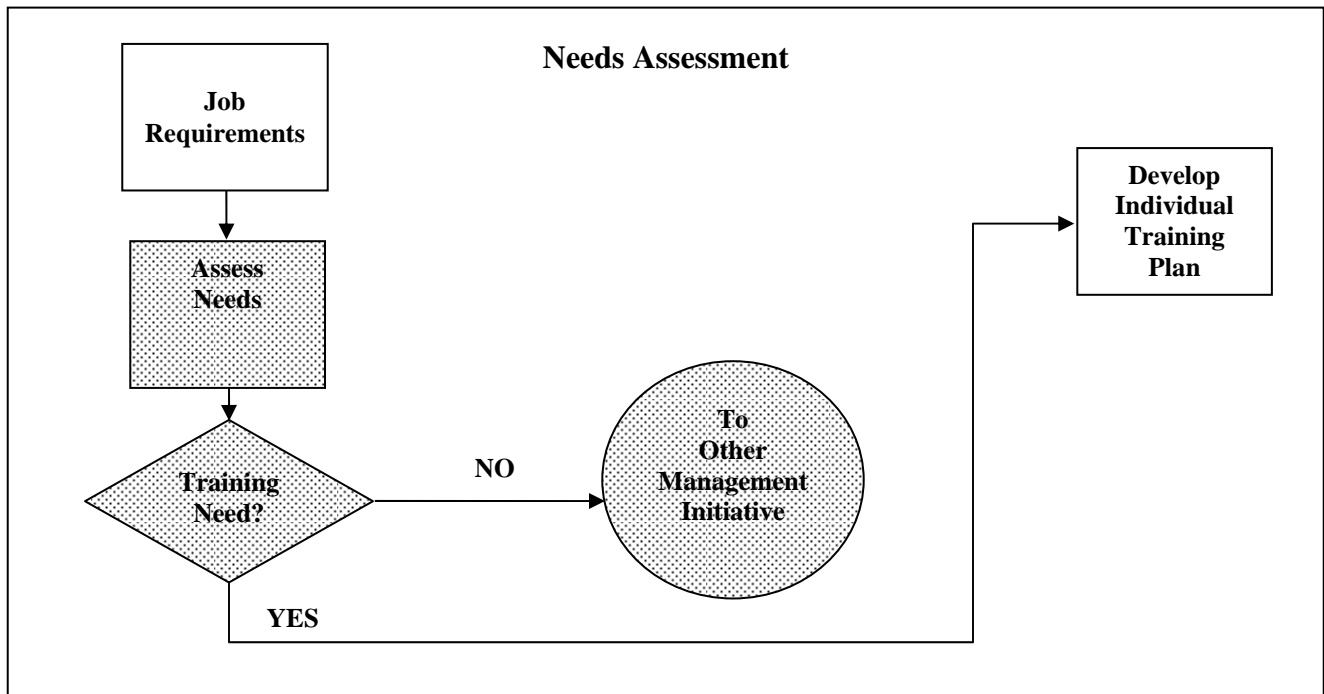


Training Needs Assessment Process

A Training Needs Assessment is the process of separating the job tasks into those for which training is needed and those for it is not and then developing an Individual Training Plan for accomplishing the needed training. This does not merely mean selecting those knowledge, skills or abilities, which are critical to the job performance, but also means determining what are the capabilities of the current job incumbents (target population). Many training programs fail because we try to train people on things they already know or are capable of doing. Most of us have had the poor experience of attending a training session of this type at one time or another. If we properly assess each individual's or group's training needs this will not happen.

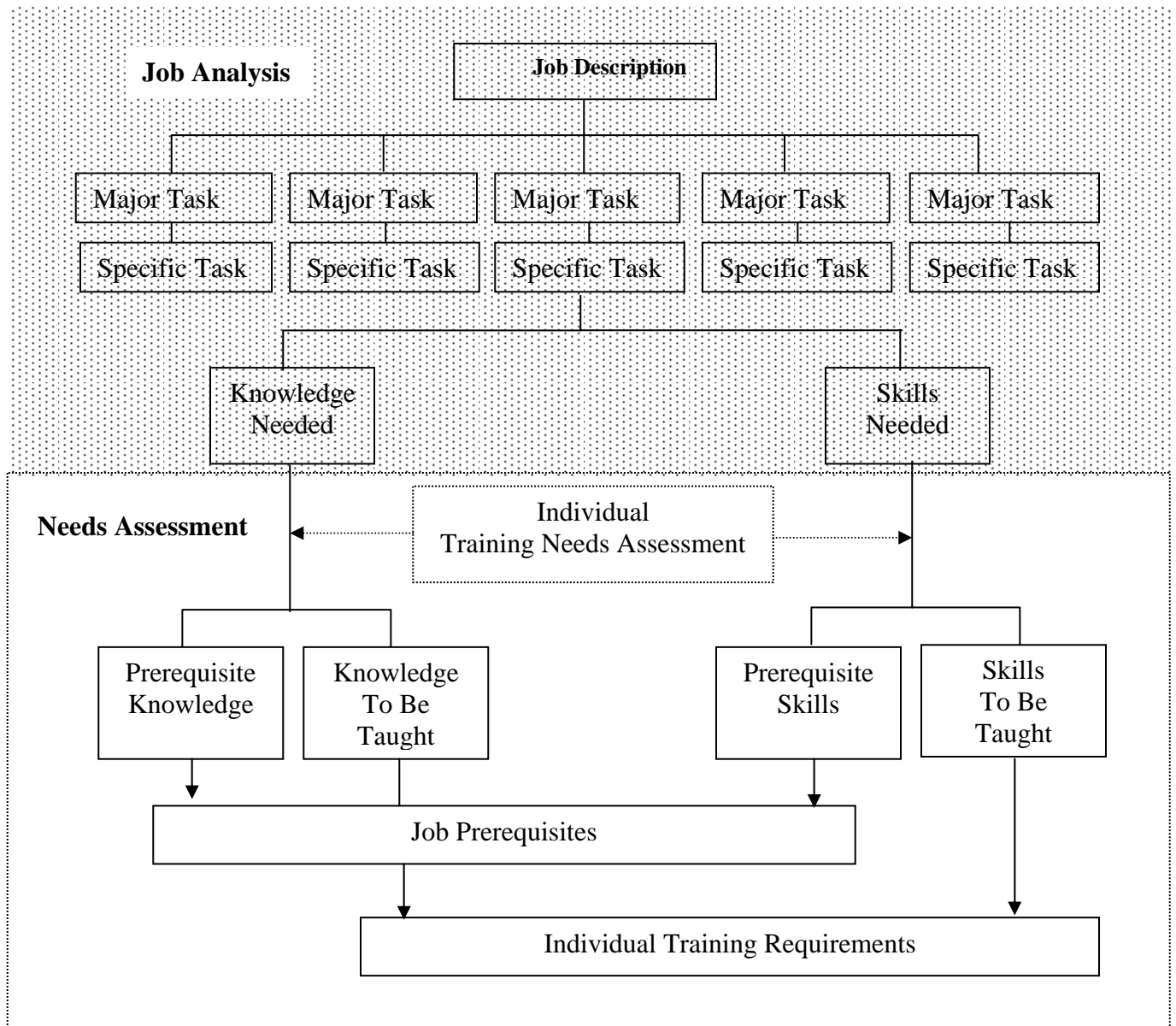
The Training Needs Assessment model is illustrated below.



We first must perform a fact finding (job analysis) to determine what the valid job tasks. We can then analyze the target population to define what the attitudes, knowledge, skills and abilities and so on that they already have and identify what the training needs are.

Also, if we find that most new employees already have some of the job requirements, for example they have good reading skills; we may decide to make that a job prerequisite.

A general model for the needs assessment process showing the relationship to the Job Analysis is as illustrated below.



Also remember, that once we have determined the individual's training needs we will also need to make a decision if the requirement is a training requirement or could be met by other management initiative. For example, if we have an individual that lacks some of the basic job prerequisites we may need to either put them in a remedial program to acquire those prerequisites or move them to another job position. This also may apply if an individual already has all the required knowledge and skills for a job position. We may need to promote him to a higher position!

Methods for Determining Training Needs

There are many methods to determining individual training needs. These include using pencil and paper assessment tests, performance assessment, performance capability interviews and job incumbent surveys.

The first method consists of using a written assessment test that is based on the knowledge content of the job as determined in the Job Analysis. This has so advantages in that it is relatively easy to score and the results are objective, however it is also somewhat limited in that only knowledge objectives may be assessed and the number of test items used may not be sufficient to effectively evaluate the workers actual job performance. Generally this type of assessment is only used to assess classroom training needs.

The training needs assessment test is developed using representative assessment test items that correspond to each knowledge item that has been identified in the Job Analysis. The resulting training needs assessment test is then administered to relevant plant personnel. The tests are then graded and the results analyzed to define those areas in which training is needed.

The following questions are typical power plant assessment test.

Please answer the following questions to the best of your ability. We are trying to determine, the areas we should provide Plant Operator Training. All results will be kept strictly confidential and will not be used in any way to affect your job or status.

- ___ 1. (MOD001) The stairwells and elevators can be used as a means of escape in case of a fire.
A. True
B. False
- ___ 2. (MOD001) The company reserves the right to have properly authorized supervisors or search personnel (including drug detection dogs) conduct unannounced searches and inspections of company facilities and properties for illegal drugs and unauthorized alcohol.
A. True
B. False
- ___ 3. (MOD001) A substance abuse test, which will include urine sampling, is to be performed on an employee for every injury requiring treatment by a doctor.
A. True
B. False
- ___ 4. (MOD062) Before starting a circulating water pump, the discharge valve must be
A. Completely open
B. Halfway open
C. Completely closed
D. None of the above
- ___ 5. (MOD062) An increasing circulating water temperature:
A. May cause an increase in condenser vacuum
B. Has no effect on condenser vacuum
C. May cause a decrease in condenser vacuum
D. Indicates condenser tube pluggage
- ___ 6. (MOD077) The alternator-exciter:
A. Is an AC generator and rectifier that supplies DC current to the main generator field magnet
B. Is a DC generator that supplies current to the main generator field magnet
C. Is an independent generator that supplies power to the stator cooling unit and the seal oil unit
D. Is an electric motor that starts the main generator rotation

- ___ 7. (MOD078) What is the generator output voltage?
- A. 18,000 volts
 - B. 20,000 volts
 - C. 15,000 volts
 - D. 22,000 volts
- ___ 8. (MOD081) NO_x may be reduced significantly by reducing the temperature of the flame tips.
- A. True
 - B. False
- ___ 9. (MOD082) Before performing lock-out/tag-out on a piece of equipment, it is important to review the work order and scope of work to be performed with the maintenance technician(s) assigned to perform the work.
- A. True
 - B. False
- ___ 10. (MOD082) When performing a tock-out/tag-out of a piece of equipment which operates under an internal pressure of 200 psi and 250 degrees F, it is important to vent and drain the equipment prior to allowing work to be performed on the internals.
- A. True
 - B. False

A Job Performance Assessment may also be used to determine training needs for selected job duties. In this case a portion of the actual Performance Test is used to determine if the worker is prepared to perform the actual test or if more training is needed.

The worker may not actually perform the steps, just describes how they would in a job situation. The person conducting the assessment rates the individual as to competency of performance. One drawback to this method is that the person conducting the assessment should have technical knowledge of the job duty being performed or at least a set of written instructions to follow.

A third method that may be used to assess training needs is a Performance Capability Interview or Survey. Using this method, the workers assess their own training needs by evaluating their own competencies. When done in the presence of a supervisor, it also

allows for some overview to ensure that the worker gives a honest assessment of their own capabilities. Using this method the job requirements for the worker are listed, usually on a computer, and the worker is asked to rate themselves as to their competency in knowledge and the ability to perform the job duty listed. This may be on a numerical scale (one to ten) or on a subjective scale such as good, excellent, fair, or poorly. The interview is done with the supervisor present and the scores are discussed before they are entered until the supervisor and worker are in agreement as to the workers competency. Care must be taken when using this method to ensure that both the worker and the supervisors are candid in their discussions.

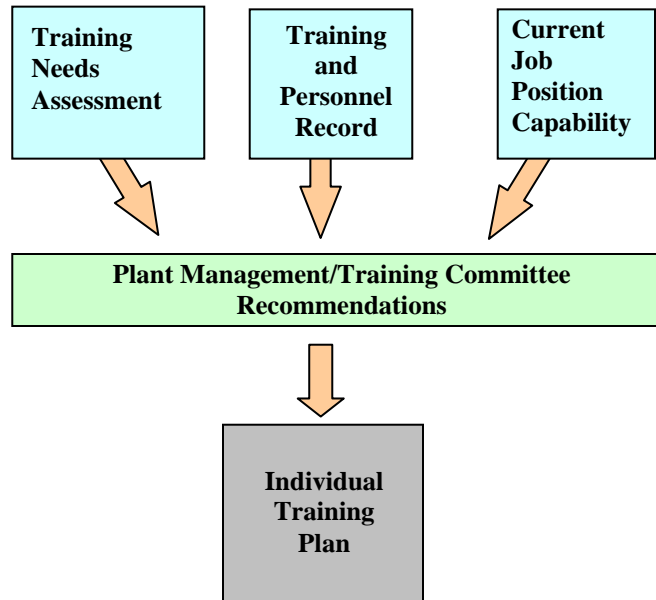
Written survey questionnaires may also be used that include all job requirements of the incumbent. These may be fairly lengthy, sometimes up to 1000 items, or you can limit them to just a specific area.

The survey questionnaires may be provided to either a represented sample of job incumbents in the specific job classification or to each individual in the job classification. The questionnaires are completed on an individual basis.

The results of the survey, consists of the numerical data noted by the job incumbents on the individual survey questionnaires. This data can be analyzed using a computer analysis program that determines which items are critical to job performance and therefore are a training need or by merely reviewing the results subjectively.

Developing an Individual Training Plan

The final requirement of the needs assessment is to develop an individual training plan or process for the individual to obtain the needed training. Individual Training Plans are developed to provide a practical framework for providing and monitoring the training. They are dynamic documents that will be changed and updated as necessary to meet changing needs. Therefore, a change process should be included in any individual's training plan. The process for developing the individual training plan is illustrated on the following page.



The specific structure and level of detail of the Individual Training Plan will of course depend on the organization. The overall requirement is that the responsibilities for managing the training, be defined, the procedures that will be used to develop and provide the training be detailed and the evaluation methods specified.

Also the individual who need training will require an experienced employee to conduct the training. The organization may not have employees who are experts in a given task. This situation often occurs when a new piece of equipment or technology is brought in and no one on site has had time to develop sufficient expertise. In such cases, selected employees must either be sent away to a training program or be given time to develop the expertise that they need on their own.

Another consideration when preparing the individuals training plan is whether there is adequate time for training during the workday. Supervisors are often reluctant to take their personnel away from the job, even for short periods of time. Attempting to squeeze both

work and training into the same work schedule is generally difficult. The quality of both the work and of the training suffers. Whenever work time and training time have to compete, work usually wins. In many instances, training is conducted at times other than regular work hours, such as before work, during breaks, or after the workday.

Also when OJT is used to train employees how to use equipment, tools, or data, these resources must be available in the work setting. Making them available can pose logistical problems. The plant generally cannot take a piece of equipment out of service just for training purposes. Alternate ways have to be found when work schedules are tight. For instance, during outages, at night, or on idle units or equipment.

Training location should also be specified. Classroom training should be conducted in a space formally designated and equipped as a classroom. OJT can be conducted in an office, a training station, within the maintenance area, a conference room, a computer station, the control room, the lunchroom or even outside. The training location selected essentially depends on the training resources necessary to achieve the training objectives.

When preparing an individual's training plan the financial cost of the training should also be considered. Logically, an organization would consider the best deal to be the training approach predicted to provide the most financial benefits at the lowest cost.