

## Healthcare Technology: Training Skills for Hospital Technicians and Engineers

*Everywhere old technologies are further developed and new technologies appear. All the time, there are a lot of technical changes. In order to keep competitive in such a fast-moving world, it is necessary to update ones performance all the time as well. Continuous improvement of skills must take place in each enterprise. The best way to keep on running the business in a fast-moving world is continuous training of the staff.*



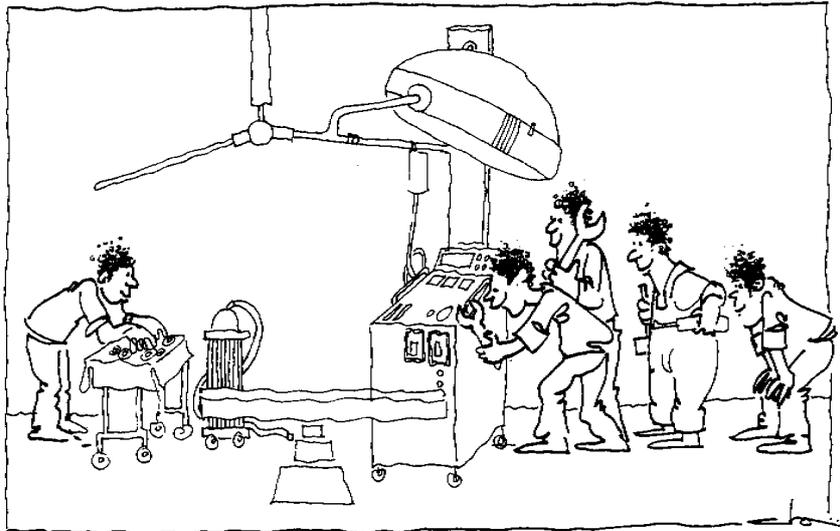
### The major objectives of training are:

- 1 Development of the staff, so that they may progress if the potential exists
- 2 Provision of skills and knowledge which are necessary to undertake required jobs efficiently
- 3 Facilitation of introduction of new techniques
- 4 Increase of efficiency by reducing spoilt work and misuse of machines
- 5 Increase of working quality

The kind of training course provided must be suited to the types of work and grades for which the trainees are to be fitted. A thinkable training course for maintenance organisations and departments would be "job training". In job-training the technical staff and equipment users will be taught in her/his particular job. The course is designed to train the employee in great depth of its job. However, before training someone it is necessary to detect the fields in which her/his knowledge shows gaps. Training staff in fields which they already master or in fields which do not belong to their place of work would be a waste of time and money.

The two basic methods of training are "training **on** the job" and "training **off** the job":

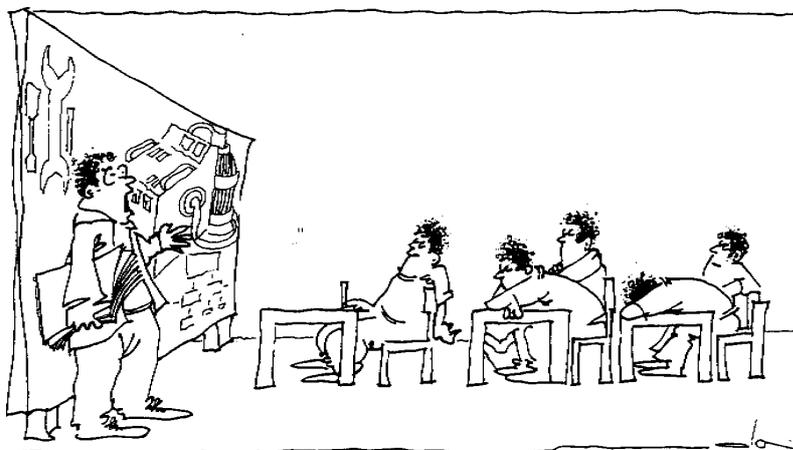
### Training on the Job



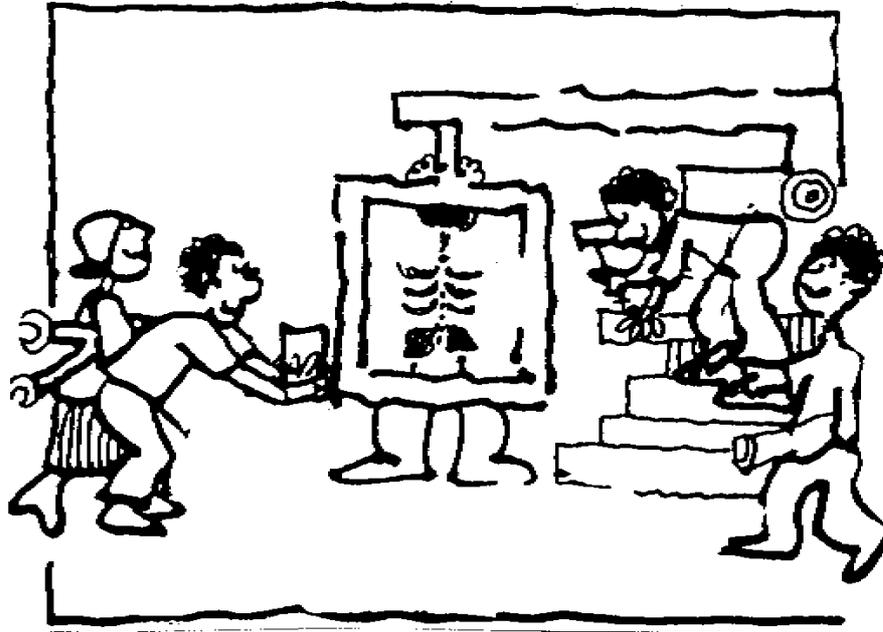
"Training on the job" aims to teach the technical content of a job. It consists of the job being demonstrated (often in stages) and then undertaken by the trainee under supervision. Since the employee is trained whilst she/he is doing her/his job, her/his technical knowledge will be improved. "Training on the job" may be supplemented by training manuals which are expertly written documents. They clearly show the stages in a work process. They are used by the learner and instructor. Because of the expertise employed in compiling it, a manual gives an efficient method of training.

### Training off the Job

In "Training off the job" the employee is sent to a training institution where special courses are held. In these courses mainly theoretical knowledge is being taught. After the course the employee must implement the theory that was learnt on the job. This may be difficult, because often the facts are different from the theory. Additional difficulties may occur which have not been taught in the course.



Since a good implementation in "Training off the job" usually will be difficult, you may think that this training method is disadvantageous compared to "Training on the job". "Training off the job" offers an advantage as well. When participating a training course in an institution, the employee can focus all her/his concentration on the course. Whereas by "Training on the job" she/he may be disturbed by daily work or colleagues. Thus, we cannot say which of these two methods is the best one. Which method should be chosen depends on the type of work that should be trained and on the work situation. In addition, it must be checked whether the training institutions offer suitable courses.



No matter which method is taken, the aim always must be to develop the staffs skills in order to keep competitive. Since the development of techniques is a continuous process, you should never stop training your staff.

In the following sections we are concentrating on "on-the-job" training, since this has proved to be a cost-effective and widely accepted method in the field of equipment handling and maintenance.

## ON-THE-JOB TRAINING

This is one of the most important methods of training for all types of work whether on the shop floor or in the office. The newcomer is asked to observe and then to carry out the work under supervision. If necessary, a job is broken down into elements and each of these is taught before the trainee is expected to take other work.

Although all types of work can be covered, the method is best when dealing with routine work which takes a relatively short time to learn. When a job is complex and involves the exercise of judgement and making decision, both theory and practice may be necessary.

With on-the-job training, there is need for properly trained instructors, otherwise an inefficient instructor can produce a number of inefficient "off spring" or people.

Techniques available can be divided into three areas:

1 **Demonstration** - Telling or showing a trainee how to do a job and then allowing her/him to get on with it. This is the most common and effective method as long as it is done properly, i.e. by a properly trained instructor.

2 **Coaching** - in which counselling takes place usually between a manager and his subordinate and preferably based on a performance review.

3 **Job rotation** (Planned Experience) in which staff experience is broadened by them being moved from job to job. Here is learning by doing the best way as long as the sequence of experience is properly planned and controlled.

## PROCEDURE FOR GIVING JOB INSTRUCTIONS

The procedure denotes 5 steps that should be followed when giving job instructions (PESOS-Procedure)

- ☞ **Prepare**
- ☞ **Explain**
- ☞ **Show**
- ☞ **Observe**
- ☞ **Supervise**

### Prepare (1)

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The worst thing a trainer can do is fail to prepare her-/himself and the Trainee before starting to give instructions. Here are some points to think about:

a) Who is to be taught ?

Your style of instruction; the language you use; the time you will need; the speed of instruction; the number of stages required - all these things will depend on the sort of person (or people) you are going to instruct. How intelligent is she/he? How much experience does she /he has got? What kind of person is she/he - nervous, confident, over-confident, or shy ?

## b) How much does she/he already know?

It is safest to assume that the person you are going to instruct does not know anything at all about the job. On other hand, she/he may have some experience in similar types of jobs. In this case, you can save her/him and yourself some valuable time. If in doubt, question her/him first.

## c) Be clear about WHAT you're going to do

Firstly, what exactly is the Job to be done ? How far should it go ? Can it be broken down into stages and key points ? (See JOB BREAKDOWN below) Note down the key points and decide the order. What method of instruction will you use ?

## d) Where will the training being done?

The obvious place is where the trainee will actually be doing the job (i.e. on the machine itself, or at the desk). Training must be as close as possible to real life conditions, that is why on-the-job training is often better.

## e) What materials and equipment are needed ?

Apart from the machine you have to use, you may need other equipment and materials (e.g. documents, diagrams, specimens, tools, papers, pencils, etc.). It is best to make a list of these items and check to ensure that everything required is present and ready to hand BEFORE you start instructing.

## f) Check with a practice run

Practice the instruction procedure BEFORE the arrival of the trainee, to make sure that you are well prepared with all the training points. And also make sure that nothing has been left out. This is particularly important when using a machine.

## g) Breaking the job down

The idea behind breaking a job down into stages is to make learning easier for the trainee. The procedure to be followed at each stage is explained, demonstrated and practised before moving on the next stage. The trainee learns individually, so that he can easily keep up with.

*Stages* - Describe a particular part of an operation. Stages mark a definite step towards its conclusion.

*Key points* - Describe what happens at each stage (i.e. the details of how to do it). Almost any job can be broken down in this way.

## h) Welcome the Trainee

Welcome the Trainee by greeting her/him with a friendly smile(she/he will probably be a bit nervous). Let her/him stand (or sit) where she/he will be able to observe what you are doing. Ask her/him how much she/he knows about this particular job, or how much experience she/he has with similar jobs. Outline what you are going to do (the PESOS Procedure) and encourage her/him to ask questions about anything she/he does not understand or is not quite clear about. You are ready to start stage 2 of the PESOS procedure now.

## Explain (2)

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The Trainee is now with you and there is quite a lot to explain to her/him before you start showing her/him how the job is to be done.

### a) Introduce the job

Tell her/him, in general terms, without going into detail what has to be done. Show her/him the materials, the machine or equipment she/he is going to use, and where she/he is going to do it.

### b) WHY is this job to be done

She/he will be much keener to learn if she/he understands the reason for doing the job, what the end product will look like and how it will help the overall results of the institution. Help her/him to see that the job is worthwhile.

### c) Ongoing explanations

Explain that you are now going to SHOW (see below) how the job needs to be done. You will do it first, at normal speed, then at slow speed, pausing at each stage and explaining the key points. Finally she/he will do it her-/himself.

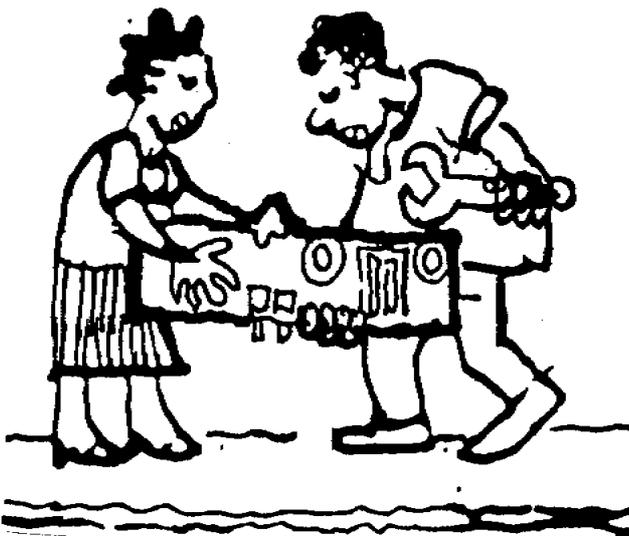
### d) Check her/his understanding

Ask her/him direct questions to your demonstration. Remind her/him to ask you questions too.



## Show (3)

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You demonstrate how the job is to be done, while she/he watches you. Throughout the SHOW stage you should be explaining WHAT you are doing and WHY you are doing it. Combining showing with telling (Sight plus Sound) is the most effective way of helping the trainee to remember the procedure.

### a) Run through the whole procedure

Do it at normal speed, but explain what you are doing and why you are doing it. Stress the SAFETY POINTS.

### b) Repeat each stage of the procedure

Now run through the procedure again, pausing at each stage (see "Job Breakdown") and explaining the key points.

## c) Do it again slowly

It is the last time you will be demonstrating how to do the job, before you ask the trainee to do so (If the job is a long and complicated one, it may be better to show one stage at a time and to get the trainee to practice it, before moving on to the next stage).

## d) Re-check the trainee's understanding so far

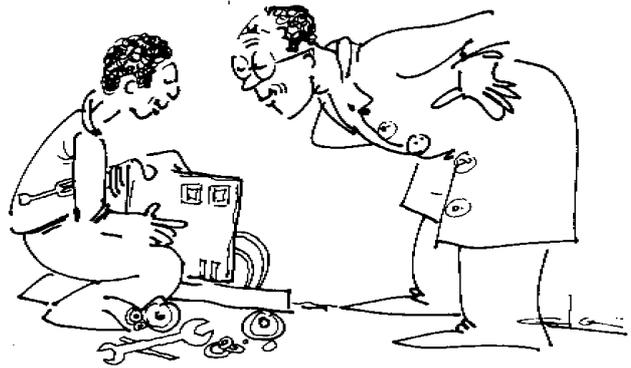
Ask her/him direct questions related to your demonstration.

**Observe (4)**

This is where you ask the Trainee to do the job, while you watch her/him. She/he must explain WHAT she/he is doing and WHY she/he is doing it to you.

## a) Check errors immediately

If she/he does something wrong, STOP her/him at once. It is particularly important if she/he does something which could affect safe working practices. Say something like "Hold it there" in a pleasant voice rather than shouting "STOP IT" and frightening her/him.



## b) Use constructive criticism only

This means showing him the RIGHT WAY to do things, instead of blaming him for doing it the wrong way. You want him to remember the correct way - NOT his mistakes. If necessary, explain WHY it must be done this way. Keep your temper and be patient.

## c) Get her/him to repeat it

She/he should be more certain of her-/himself this time, so she/he may easily forget a few less important details or key points. Watch out for possible mistakes.

## d) Make her/him practice it over and over again

Skills can best be developed through practice. Therefore, we have to practice again and again until we have developed the right habits, so that we perform the correct actions unconsciously.

## d) Re-check the trainee's understanding so far

Ask her/him direct questions related to your demonstration.

## e) Encourage the trainee whenever you can

Compliment her/him every time she/he does something right. We all welcome praise and it does a lot to help the confidence of a nervous trainee. In fact, better learning will be achieved at an atmosphere of encouragement.

## f) Let her/him know your satisfaction

The trainee should continue practising until both of you are confident that she/he can do the job effectively and without any risk of error.

g) Never under-estimate the skills required

Avoid using phrases like "You will soon pick this up" or "anybody could do this job" when you are introducing the trainee to a new job. You may think that such remarks will give the trainee confidence but, in fact, this is not always the case. Any new job takes time to learn and most trainees are a bit nervous at the beginning. If they find that the learning process is taking some time to pick up, or they have difficulties in understanding some of the points, this may give them a feeling of lack of confidence because you told her/him that it's such an easy job, that anyone could do it!

## Supervise (5)

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This is the final stage of the PESOS procedure. When the trainee starts to work on her/his own, she/he may still be slightly nervous at first, so he/she might want some assurance that help will be provided if required. On the other hand, she/he also wants to prove for her-/himself and also to you to be capable. So, before you leave her/him:

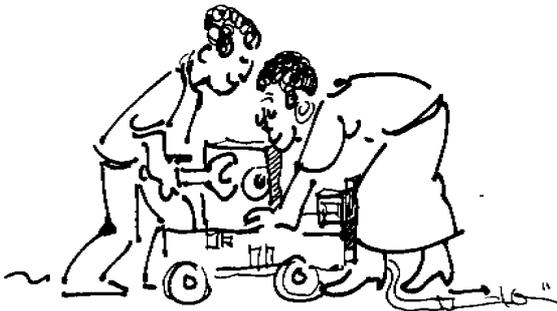
a) Introduce her/him to nearby workers

These might be trained people who can help her/him if she/he needs sudden advice or assistance.



b) Tell her/him your expectations of her/his results

You will obviously not expect full results at the beginning. You should give her/him an approximate idea of what she/he should catch up during her/his first few days on the job. Express confidence that she/he will soon improve with practice and give her/him a realistic target for the first week. Tell him what his final target will be, once he has developed the necessary skills.



c) Walk by her/him frequently at the beginning

Make sure that your supervisory duties take you pass her/him frequently at the beginning, so that you can observe what is being progressed. Also she/he can ask you for help if needed it. Make sure that she/he works safely, but don't stand right over her/him, or breathe down her/his neck - (nothing destroys confidence more quickly in a trainee!). As she/he settles in, walk by her/him less often.

d) Review his progress

Compliment her/him on his success, or help her/him if she/he is in difficulties. Decide if she/he needs further training or a refresher course at a later date. Let her/him know that you are interested in her/his progress.

e) Check on the results you achieved

Ask yourself if you handled the job instruction effectively.  
Was there anything more you could have done?  
Did you handle the procedures correctly?