

FOUR WAYS OF LEARNING

INTRODUCTION

The purpose of training is to help people to develop their knowledge, skills and attitudes to enable them to carry out their duties. This requires the trainer to consider such questions as:

- What is the objective of the training being planned? Is it to develop knowledge? To develop skills? To develop attitudes? Or (more usually) to develop a mixture of these?
- What is the entry behaviour of the trainees? What transferable skills do they already possess? Are they willing to learn?
- Is the entry behaviour likely to vary within the learning group? If so, how wide is the range?
- Do the trainees prefer to work things out for themselves?
- What is the environment for the learning event? Will it take place under working conditions, or off-the-job?
- What methods will be used to give trainees feedback on their performance?

In considering these questions, an important underlying consideration is the way in which people learn. The following notes describe a basic, practical framework for applying learning theories to typical training situations. It considers four of the ways in which people learn:

1. **TRIAL AND ERROR** - by trying for oneself
2. **BEING TOLD** - by receiving direct instruction, either orally, or in writing
3. **IMITATION** - by copying the actions of another person, usually an instructor or a skilled person
4. **THINKING** - by organising one's thoughts about a topic or problem to arrive at an explanation or solution.

Each of these ways can make a useful contribution to a learning event. Depending on the objectives to be achieved and the trainee's entry behaviour, for some training sessions one or two of the ways of learning will be more useful than others. You may find the illustration in Fig. 1, below, helpful.

Notice that the learning event illustrated shows that 'thinking' and 'trial and error' are used more than the other two ways of learning. This is a learning event suitable for tasks where people have to learn how to solve problems, deal with non-routine situations or involving planning.

Learning events can be planned by considering how each of the four ways of learning can contribute to the quality and effectiveness of training you can provide for the trainees. Each axis should be considered to decide which of the ways will be of most benefit to the trainee. We can also take account of their contribution and the sequence in which they are to be used.

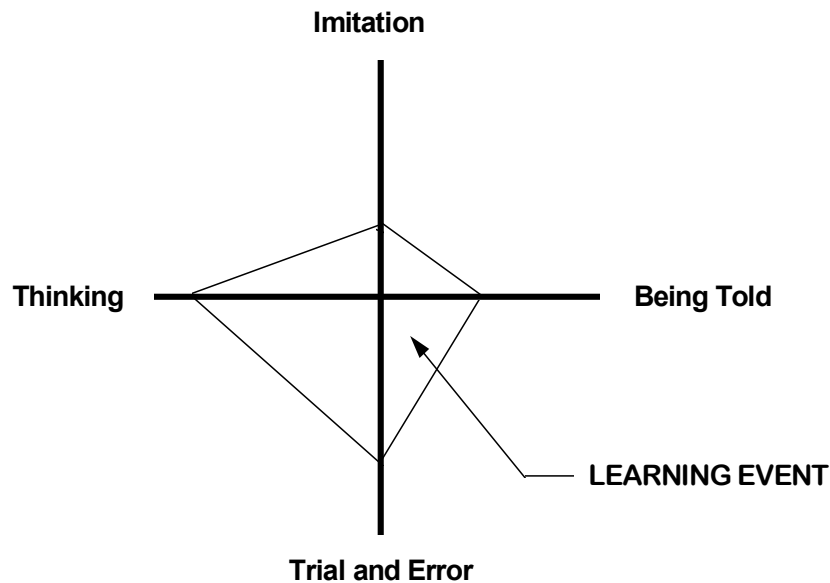


Fig. 1

TRIAL AND ERROR

This is probably the simplest and most traditional form of learning. Trainees try to do something and learning takes place when they review the success or failure of their attempt. Trial and Error learning is essentially a practical activity and is therefore particularly suitable for learning skills.

Trainees often like to learn by trial and error - by attempting to do something. This is especially true when the trainee feels confident and able to participate in what will usually be practical, work-related situations.

Generally, younger people like to try for themselves because learning activities are often introducing something new, challenging and of practical work-related significance. Older people like to learn by trial and error because they can build upon their existing skills and to use their experience as the basis for learning.

One of the most important features of trial and error learning is knowledge of results. When a trainee tries to do something, the attempt has to be reinforced. Sometimes the information comes from the performance of the task itself. For example, if you try to light a match, you can see for yourself whether or not you have been successful. For other tasks, the trainee may need to get information from the trainer, either by praise, confirming that the attempt was correct (positive reinforcement), and only occasionally criticism for making an incorrect attempt (negative reinforcement). This means that:

- a) We should so design Trial and error learning situations that the trainee has a good chance of making successful attempts, leading to positive reinforcement.
- b) Learning events leading to probable failure should usually be avoided. Errors lead to a lowering of confidence and reluctance to attempt further trial and error learning activities.

- c) An exception to (b) above is when a failure attempt is used as the basis for further learning, allowing the trainee to reflect upon what went wrong (see 'Thinking').
- d) The trainee should feel a sense of security. He or she should feel confident that if the attempt results in failure, it will lead to nothing other than friendly advice.

We should create opportunities for practising trial and error learning around practical, realistic, activities. The learning opportunities should be events structured rather than unstructured. Structured learning events are those that the trainer has carefully planned, where the trainee is learning in a cumulative way with each attempt leading to probable success and to further even more demanding learning opportunities.

An unstructured trial and error learning event is one for which the trainer has made no plans. The trainee attempts to do something without proper supervision, and without knowing the likely outcome of the attempt. The result of such an unstructured learning event is likely to be failure, with the trainee becoming demotivated through loss of self confidence, and loss of respect for the trainer.

When properly planned, learning by trial and error can make a valuable contribution to training activities and is particularly useful for practical on-the-job training.

BEING TOLD

The basis of this way of learning is that the trainee receives some information from the trainer. The instruction can be in words, symbols, or figures. The entire content of what has to be learned is presented to the trainee in a final form. The task of learning does not require the trainee to make any independent discovery. When we tell a trainee something he or she is being presented with a fleeting moment in which to understand and remember the information. How fleeting the moment and how much the trainee learns depends upon:

- a) **The amount of information to be remembered:** if it is only a small amount the trainee can simply be told and be expected to remember. However, if there is a considerable amount of information, expecting a trainee to remember it is unreasonable. The information should therefore be presented in written form to enable the trainee to refer to it when necessary.
- b) **The complexity of the information:** the more complex the information the more carefully the trainer needs to consider how to present it. We can often improve this presentation if it is supported by visual aids.

Being told something is not always an easy activity for either the trainee or the trainer. First it requires the ability and willingness of the trainee to listen carefully and learn. Younger people find this easier to do than adults who may resent this essentially prescriptive approach to learning.

The relationship between the trainer and the trainee is another factor. 'Being Told' infers that the trainee does not know and the trainer does. In practical terms, this means that:

- a) The trainee has almost no information on the subject; must want to learn the information; and accepts the trainer as a provider of it.
- b) The trainer must know the information, can communicate it effectively, and be credible to the trainee.

- c) We must create an instructional session that gives the trainee the opportunity to learn. This requires preparation, effective presentation, and a sufficient amount of time for learning to take place.

Being told is a useful way to learn, especially when used for increasing knowledge. This is particularly so for situations where there is a clear-cut body of knowledge with a minimum amount of ambiguity. The effectiveness of this way of learning depends largely upon the ability of the trainer to prepare and communicate the information.

IMITATION

In learning by imitation, we create an opportunity in which a trainee can observe somebody performing a task. The trainee then attempts to imitate the performance he or she has observed. Essentially, learning by imitation is based upon what a trainee sees done, not on what we tell him or her should be done.

A 'model' which a trainee can imitate should be a positive influence because it should be a demonstration of the correct way to do something. It can become a negative influence if the trainee sees and imitates incorrect ways of doing something. In both cases, it is what the trainee sees being done that matters most and influences behaviour.

Learning by imitation is an aspect of the learning process that requires very careful consideration by the trainer. For example, there might be a considerable difference between what a trainee has learned in, say, an off-the-job training centre, and what is seen being done on the job. The question then is, which 'model' was the correct one - the one seen in the training centre, or the one seen on the job? Often, the trainee will imitate the on-the-job model because of pressure to conform to group norms. The overpowering influence of the group will affect the trainee's behaviour; the trainee will usually conform to workplace norms, despite any off-the-job training he or she might have received.

On-the-job training can provide an excellent basis for learning by imitation. However, if on-the-job training is badly prepared and unstructured, the trainee will be exposed to (and learn) probably as many bad working practices as good ones. The trainer should consider the following points:

- a) A good 'model performance' should be available so that the trainee can imitate it.
- b) The learning event should permit accurate and complete observation by the trainee. This is sometimes difficult in that not everything in the performance will be observable. The information the skilled worker takes in through the senses and uses for skilled performance may not be immediately apparent. This is an important reason for not relying solely on imitation: to do so may lead the trainee to acquire the wrong behaviour.
- c) As far as possible, we should not expose trainees to bad models. If we cannot avoid this, then we must try to positively reinforce good behaviour, and to highlight the consequences of bad behaviour. (See Thinking).
- d) Trying to change the work behaviour of one member of a group is almost bound to end in failure. Training the whole group together is usually far more effective.

THINKING

Learning can occur when a trainee is encouraged to think about an experience and to reflect on it in learning terms. Using such questions as 'Why do you think that happened?' 'What would you

do if you were to repeat it?' the trainer can create a learning event within which complex situations can be thought about and discussed. It might be that there is not a simple, clear-cut, answer; the trainee might be presented with several options, each having some advantages to offer. Learning can take place when the trainee has to evaluate the options, draw conclusions, consider consequences, and generally 'think through' the situation.

In many practical, work related, situations, particularly ones facing managers, technicians, and supervisors, there is not a simple solution. The learning event created for such situations must reflect and take account of the complexity of the situation, and the varied experiences, and opinions held by trainees on the subject. In such circumstances the trainer has to encourage consideration of each situation; the reasons why it occurred and the consequences of pursuing a particular course of action. The fact that there is not necessarily one simple solution may need to be stressed. Each trainee may have his or her own interpretation of the situation and a valuable learning experience can occur when this interpretation is challenged and evaluated alongside those of other trainees.

Learning by thinking is a valuable way of providing a learning experience. Some factors to be taken into account include:

- a) The maturity and experience of the trainees, compared with the thinking required. What is a complex, demanding, thinking experience for one trainee, becomes a simple situation all too easily resolved by another.
- b) The trainer should adopt an advisory, counselling role. You must encourage trainee-centred learning and avoid imposing personal solutions to the problems posed by the situation.
- c) The more complex the situation, the less likely it is for there to be a simple, definitive, answer. A trainee, having struggled through to a possible solution, is likely to feel committed to that solution and claim 'ownership' of it. In that situation he or she will look for and expect support, critical appraisal, and, generally, positive reinforcement.
- d) Thinking is a very personal activity and the time needed to reach a solution to a problem will vary considerably within a group of trainees. This means that we should allow sufficient time within the learning event for each trainee to gain full benefit from the learning experience. Any attempt by the trainer to rush this kind of learning process will almost certainly result in a degree of learning failure.
- e) If there is a straightforward, definitive, solution to a problem it is usually far more appropriate simply to tell the trainees.

Thinking can be a valuable and rewarding learning experience. It provides an excellent basis for learning about complex situations.

The role of the trainer is one of establishing the conditions for learning to take place and then being available to act as coach and counsellor: it is not to tell the trainees what they should be thinking. This does not mean adopting a passive role: far from it. It means that the trainer comments; asks for clarification; puts questions that force the trainees to think more deeply about the subject by considering the implications of what they are saying; and gives more information where there are gaps in the trainees knowledge and experience.