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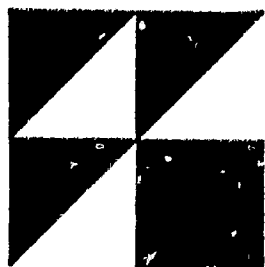
ABSTRACT

This booklet presents guidelines regarding the selection, training, qualifications, and tasks of industrial instructors. The appendix briefly deals with learning processes including the sensory bases of learning, learning theory, instructional methods, stages of training, and instruction principles. (DM)

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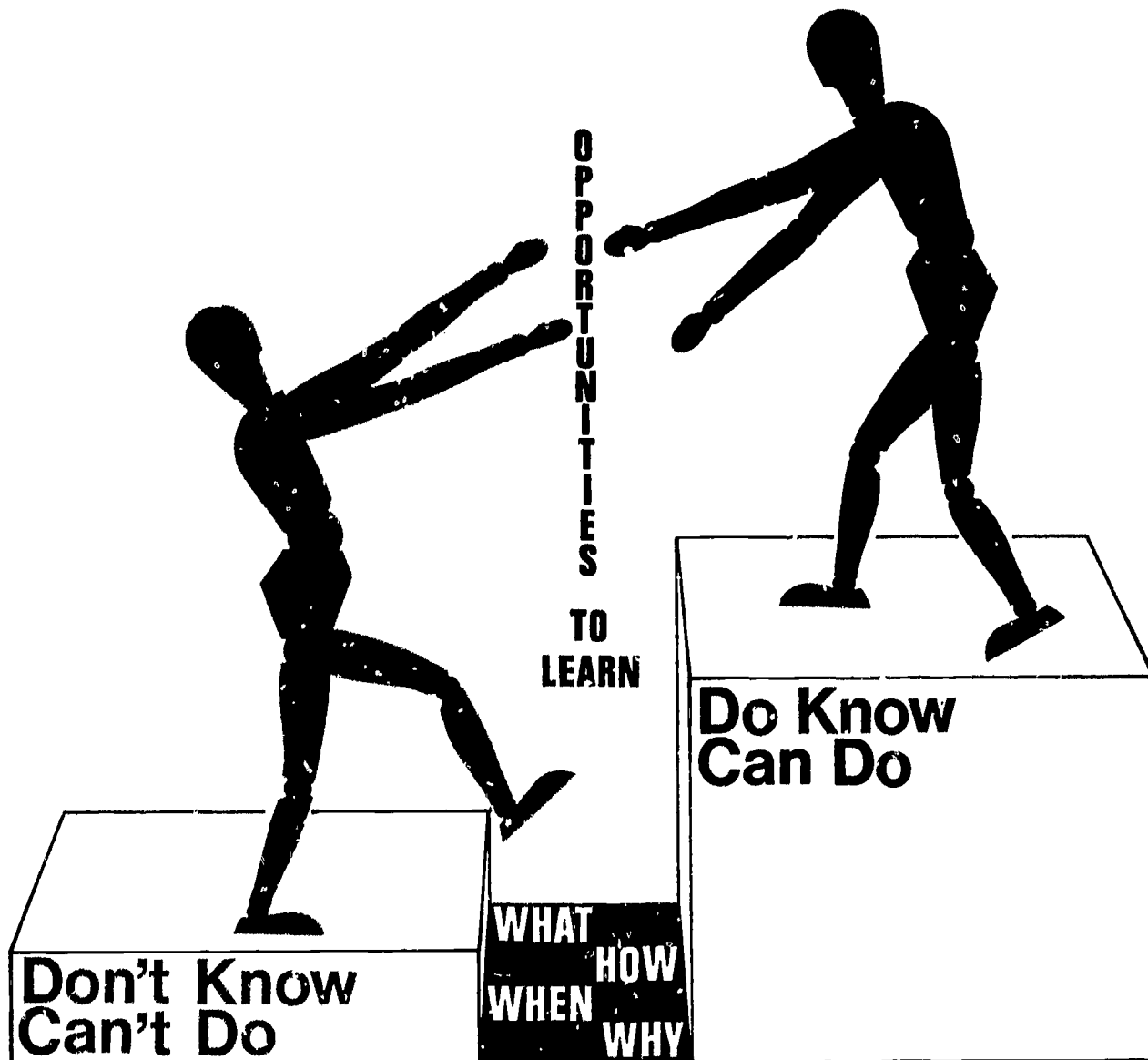
**Ceramics
Glass and
Mineral Products
Industry
Training Board**

INFORMATION PAPER 4

QUALIFIED TO INSTRUCT?

The Gentle Art of Coaching

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This information paper is intended to assist firms in understanding the reasons why the Board has placed particular emphasis on the need for trained instructors, and to promote wider understanding of what is meant by 'QUALIFIED TO INSTRUCT'

"Men must be taught as if you taught them not"

Alexander Pope: *Essay on Criticism*

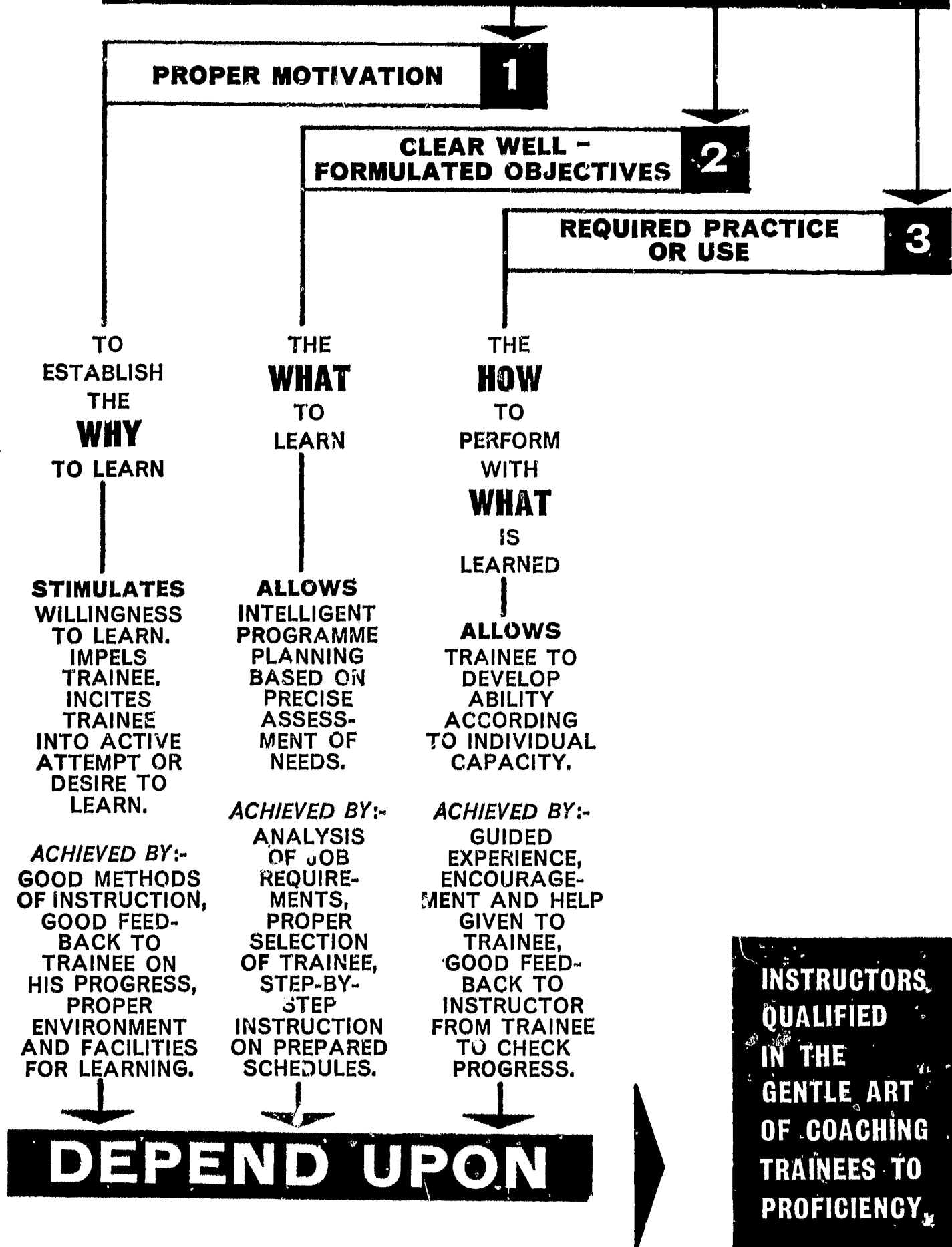
"Personally I'm always ready to learn although I don't always like being taught"

Winston S. Churchill

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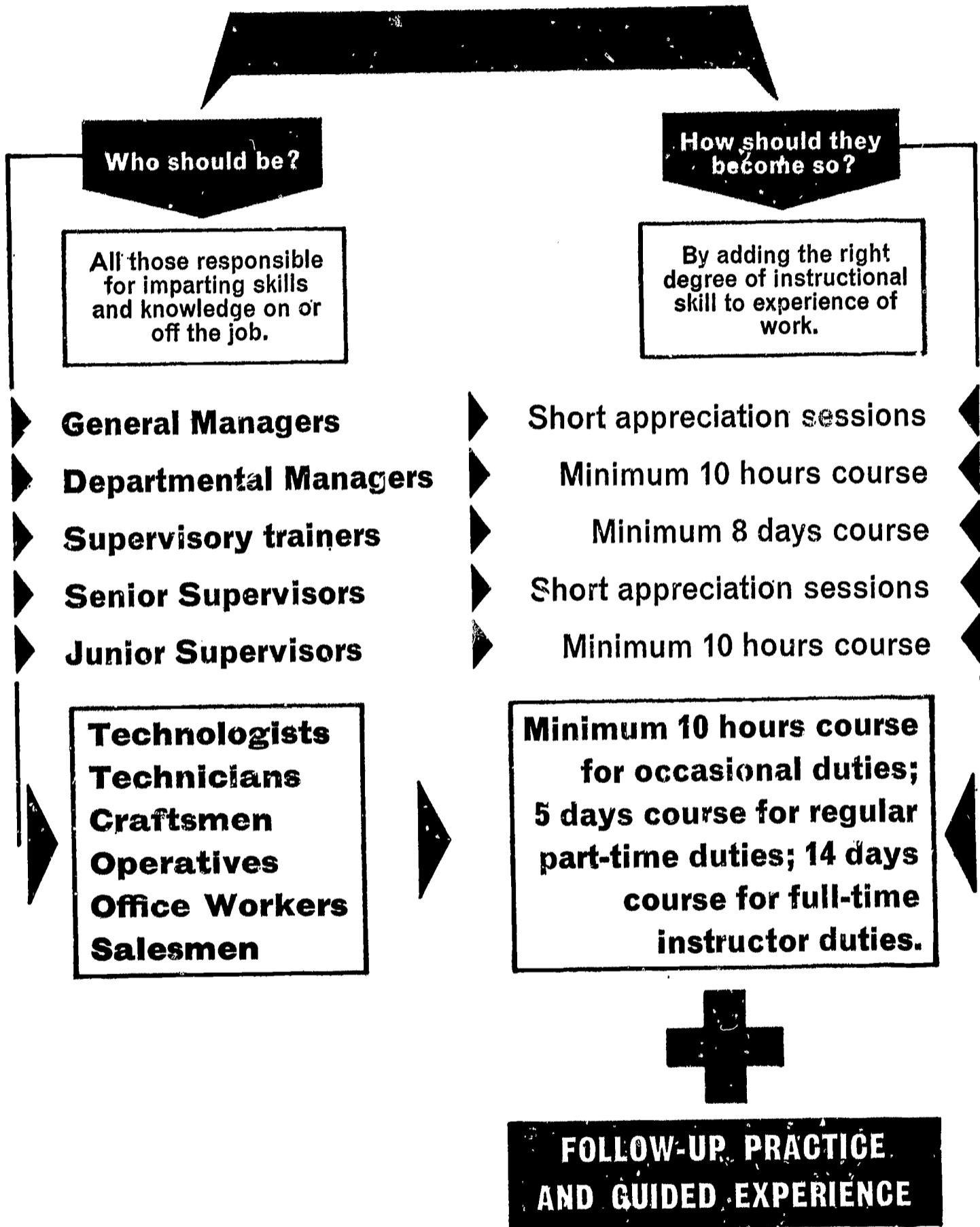
THE NATURE OF LEARNING

EFFECTIVE LEARNING



1. INTRODUCTION

(a) Most of the information contained in this pamphlet is illustrated by the following summary chart.



(b) The appendix gives specimen notes on learning and instruction.

2. A FIRST PRIORITY

If a firm has decided upon its most profitable training policy, its first priority is to get sufficient numbers of people in the organisation able to instruct. (See Information Paper No. 2 'How to Assess your Training Needs').

3. WHY PEOPLE SHOULD BE QUALIFIED TO INSTRUCT

There are several important reasons for this:-

- (a) The company practice of placing a new worker under guidance of an experienced worker (sitting-by-Nellie) is a method of training which, while it can be successful, has many failings. Foremost amongst these is the fact that an experienced worker is not necessarily able to transmit his job knowledge and skill to others effectively. An experienced and skilled worker needs to be assisted in the art of imparting to others what has become second nature to him.
- (b) In these days of change, almost every young person is likely to face a life-time of learning and re-learning. Teaching methods have undergone revolutionary changes in the past 20 to 30 years. Since the communication role of the instructor in the work situation, (be it office, workshop or laboratory), is a key one, there is an increasing requirement for him to acquire skill in instruction based on some knowledge of the learning process.
- (c) Training time costs money. With proficient instructors, remarkable savings can be made in the time that trainees take to reach experienced workers' standards. It has also been shown that proper attention to trainees given by qualified instructors raises their morale and can reduce turnover of employees. Standards of safety and productivity are generally capable of being raised considerably.
- (d) Because part of the work of the instructor, in preparing to instruct, is to analyse tasks into teachable steps, new methods of performing these tasks frequently come to light. A by-product of effective instruction is that management can effectively organise work on a profitable basis with good worker relationships.

4. THE ROLE OF THE TRAINED INSTRUCTOR

A trained instructor is a person who is directly responsible for helping other people to reach experienced workers' standards quickly and safely. He knows how to impart job knowledge and job skills in a systematic manner and is responsible for the hour-to-hour supervision of trainees whilst they are learning, whether this be on the job or off.

The role of the instructor, basically, is to help the trainee to move from a position of 'ignorance' to 'proficiency' in a given task. In order to be able to do this systematically, the instructor needs to have added to his own specific work experience, a skill which means that he can look at a task objectively. With this additional skill developed, he can analyse the task in the terms of component knowledge and skills involved, and then divide instruction methodically into the following three parts:-

(a) What and how?

Demonstrating the actual implements involved in the work; showing what separate operations are to be carried out and how, and in what order best to do them.

(b) When and why?

Arranging the most effective means of encouraging the trainee to obtain knowledge so that each separate task may be seen in relation to the other tasks contained in the whole job. In the process the trainee will understand why it should be done in a particular way and what standards are necessary.

(c) Technique

Coaching the trainee in the organisation and co-ordination of separate skills and knowledge, already learned, to give the best efficiency in doing the complete task. The job of a coach is to utilise the abilities and capacities of trainees.

Efficient coaching involves:-

- Giving trainees an opportunity to perform.
- Providing an atmosphere of confidence.
- Establishing standards of performance.
- Creating effective team work.
- Counselling trainees on their work performance.

In covering the above the trained instructor acts most effectively as a coach by following four distinct steps in order:-

1. **Preparing** the learner to make sure that full advantage is taken of opportunities to learn according to individual capacity.
2. **Presenting** the necessary information to the learner in such a way as to make the maximum impression on the senses.
3. **Encouraging Practice** by the trainee in repeatedly performing elements of the task step by step.
4. **Following Up** the learning to see that he wants, and is able, to achieve and maintain required standards of proficiency.

To develop expertise in instructional techniques, it is obviously necessary for the selected people to attend 'live' courses. Even those with the latent capacity who appear to be 'born teachers' need some training in the art of instruction to do the job effectively. This topic is explored very fully in the specimen set of notes for instructors given in the Appendix.

5. TYPES OF INSTRUCTOR

Depending upon the particular job situation there can be a need for one or several types of instructor:-

(a) **The Full-time Instructor** whose total job comprises:-

- (i) direct instruction of learners;
- (ii) supervision of practical work of trainees;
- (iii) organising training work;
- (iv) keeping records of trainees' progress and testing achievement;
- (v) control and maintenance of training materials and equipment. (A minimum introductory course of 14 days, together with relevant experience under guidance, is needed to qualify for grant as a full-time instructor).

(b) **The Part-time Instructor** who has another specific job function in addition to his role as an instructor and who covers the same functions as a full-time instructor for only a proportion of his normal working time.

(A minimum 5 days course, together with relevant experience under guidance

is needed for regular part-time instructor duties, and minimum 10 hours course for occasional duties).

(c) **The Manager or Supervisor** who gives occasional instruction on or off the job, where there is no possibility of delegating actual instructional duties to a full-time or part-time instructor.

(A minimum 10 hours course, together with relevant experience under guidance is necessary in this instance).

(d) **The Manager or Supervisor who has been trained as a trainer** of part-time instructors and who may be employed as an 'instructor trainer' within the company full-time or part-time.

(An 8 days course, together with relevant experience under guidance, is needed to qualify for this purpose).

Advice on courses appropriate to the needs of each of the above types are available through the Board's training advisers. Up to date lists of courses can be obtained on request, from the Board's research and information officer.

In addition to deciding upon which type(s) of instructors are most appropriate for a given firm, it is necessary to consider where these instructors are needed.

In a small firm, it might well be appropriate for a manager or supervisor to have a basic appreciation of instructional methods, but to delegate responsibility for actual part-time instruction to one of the people who do this type of job, (e.g. technologist, technician, craftsman, operative, office worker or salesman), to meet a specific training need. In very small units, where delegation is not possible, it might be best for a given supervisor to have more detailed knowledge and skill in instructional technique, so that he can take on this task on occasions when needed. In medium to larger size concerns, the most economical method might be for a manager, a senior supervisor, or the training officer, to qualify as a supervisory trainer in job instruction, on an 8 day course. He can then coach other supervisors or experienced workers to act as part-time instructors in the organisation. If there is an added need for full-time instructors, these should undertake a minimum 14 days qualifying course.

6. REQUIREMENTS OF AN INSTRUCTOR

An instructor must obviously be an experienced worker who can gain the confidence and respect of learners. He must also have the potential ability to develop the art of imparting knowledge and skill to others by coaching. An understanding of people, of learning principles, and teaching methods, together with a facility for explaining things clearly in simple language, are all basic requirements for the assignment.

More specific requirements of the work of an instructor are illustrated at the end of the Appendix.

7. SELECTION OF INSTRUCTORS

When considering candidates for instructional duties, it is important to select the right people. If the quality of instructors is to be high enough to ensure the profitability of training, firms must make such organisational arrangements as may be necessary, to get their best people trained to do the job of instruction well, at the various levels needed.

The Board provides the fullest possible support, in its grant scheme, to firms who recognise this priority; and accepts the viewpoint of the Central Training Council, (Memorandum No. 6: 'The Selection and Training of Instructors'), in wishing to promote general acceptance of the principle:

In future no man or woman should be expected to take on the role of instructor until he or she has first been given adequate training.

APPENDIX

1. INTRODUCTION

The following notes are adapted from a company publication originated by Mr. C. D. Stringfellow and are reproduced with his kind permission. It should be emphasised that the contents of these notes are not intended to be a substitute for the necessary 'live' courses for potential instructors.

2. LEARNING AND INSTRUCTION

Instruction is a systematic method of assisting learning; and learning is improved and speeded up by proper assistance.

By job study one can determine the content, or syllabus, of training, i.e. what has to be taught; and through appreciation of teaching principles and practice the best method of arrangement of instruction can be decided.

Those who are to act as instructors, however, are likely to prove more effective instructors if they have a sound understanding of the learning process, i.e. how learning takes place and the factors which affect learning.

3. THE BASES OF LEARNING

(a) Experience and the Senses

We obtain all our experiences through the senses—Sight, Hearing, Touch, Taste, Smell and the Muscular Sense (Kinaesthesia), and it is through experience that we learn. Some examples of how our senses may be employed in the learning and performance of industrial tasks are as follows:-

Sight — through written word, pictures, photographs, films, posters and samples of the real thing.

Touch — through the feel of objects and surfaces, hard, soft, rough, smooth, etc.

Hearing — through talks, question and answer, discussion, sound of materials, machines, etc.

Taste — through sampling of special job materials, e.g. cheese, tea, wine, etc.

Smell — through recognition of special job materials and also of danger signals, e.g. burning.

Muscular Sense (Kinaesthesia) — through muscular feel when pressing, pulling, pushing, balancing, etc.

The extent to which our different senses are employed in the learning and performance of industrial tasks is varied. For most industrial tasks little use is made of taste or smell, and the degree to which the other senses are employed varies according to the kind of learning involved.

Absorption of *knowledge* regarding a particular job will depend mainly upon sight and hearing (what is seen and read about the operations and explanations given) and it has been suggested that these two senses probably contribute 75% and 25% respectively to this type of learning. However, when *physical skills* are to be learned, the contribution of the different senses to learning is quite different. For this type of learning it is considered that the relative contribution of the different senses is probably—

Sight	25%
Hearing	10%
Touch and Muscle Sense	65%

This conclusion is another way of saying that, in the development of physical skills, learning is achieved primarily through activity, through *doing*; and it provides a pointer as to how time should be divided between Explanation, Demonstration and Practice when planning instruction for this aspect of training.

(b) Experience, Observation and Perception

We can experience many things, i.e. see, hear, touch, etc. without being aware of the relevance of the experience to the particular situation in which we find ourselves—e.g.:
sound of a car engine to the non-driver;
a wrong musical note to the non-musician.

A good deal of learning depends upon perception, i.e. the process of becoming immediately aware of something and recognising its relevance or importance, when this something is the object affecting a sense organ, (knowing whether it looks, sounds, or feels right).

We can make careful and attentive examination of a situation or object by observation but yet may not always perceive (become aware of) the things we should perceive unless given additional insight to the situation by means of special cues, clues or pointers. It is part of the function of training, through instruction, to provide the cues, and their interpretation, which give the clues to aid perception and

thus assist learning—hence the importance of explanation and demonstration as well as practice.

(c) Interest, Attention and Remembering

We are unlikely to attend to things—observe the things expected, and perceive what is to be perceived—unless we are interested in the objects or situation at hand. Attention and Memory are not 'powers' of the mind, i.e. special ability which people have in varying degree and which determine how easily a person may learn. For the most part attention and memory depend upon the quality of instruction and the keenness of the individual learner.

Conversely, inattention and forgetfulness are not due to defects in the make-up of learners but are due rather to lack of interest, or the failings of instruction. Interest should be aroused before learning can begin, and the promotion of attention is primarily, though not wholly, the instructor's responsibility. There is probably no such thing as bad memory, only lack of attention and interest. For satisfactory learning, interest must be maintained throughout the whole learning period, and to achieve this a fundamental desire to learn on the part of the learner, is as important as enthusiasm on the part of the instructor.

N.B. Things learned by the mind are more readily forgotten than things learned by the muscles, hence the need for adequate revision of theoretical instruction as well as repeated practice of manual operations.

4. LEARNING THEORY— CONDITIONS AND LAWS

The principles of good instruction and training are based on the experience of teachers and on results that have been obtained from researches in the field of education and training, through properly conducted experiments on classes and individuals.

(a) Meaning and Understanding

A first requirement of instruction is that it should have meaning, i.e. make sense. Hence the need for explanation to give understanding of:-

- (i) the job as a part of larger activities;
- (ii) the specific duties and operations which make the job;
- (iii) the what, how and why of all aspects of the job.

(b) Interest, Attention and Motivation

We cannot learn and remember satisfactorily unless we attend, and the deeper the interest the better we attend. Personal motivation is a most important factor governing interest.

(c) Depth of Impression

Remembering is closely associated with vividness and the depth of impression of past experiences. Accordingly, the elements of novelty, curiosity, realism, class activity and competition can all be usefully employed to make lasting impressions during instruction.

(d) Association of Ideas

Remembering is strongly helped by association of ideas, as well as by depth of impression. In ordinary conversation we often say "and that reminds me. . ." From a training point of view this suggests that instruction should follow a fairly logical sequence and that whenever possible new knowledge or experience should be related to previous knowledge and experience.

(e) Frequency of Repetition

Frequent repetition leads to the formation of habits, i.e. automatic response in which actions require less conscious thought and effort. So far as the development of physical skills is concerned, training is essentially the formation of good habits, and once these are firmly established, the training objective has been largely achieved.

(f) Recency of Activity and Frequency of Recall

Time, fortunately, makes us forget the thousand-and-one experiences we have (things seen, heard, etc.), and don't need to remember. We are always likely to remember more recent events more clearly. (For this reason successive instruction periods on any particular learning topic should not be too widely separated.)

Remembering is also helped by frequent recall, hence the importance of practice; (i.e. if we have had to make use of certain information or perform certain movements every day or even many times a day, it will help us to remember what is required).

(g) Insight

Sustained practice brings the learner through the difficult early stages to the point when he (or she) "gets the idea", "the feel" or "hang" of the job. This applies particularly to physical skills, but also to points covered by explanation.

(h) Learning of Physical Skills

Physical skills call for the development of a kind of muscular memory—of the feel, balance, timing and co-ordination of movements called for—but once fully learned are never really forgotten, e.g.: riding a bicycle. Skill is very much a pattern stored in one's mind and nervous system and it does not reside solely in the hands, arms or muscles. For its proper development the following are of paramount importance:-

- Expert demonstration
- Correct movements in performance
- Careful spacing of practice periods

(i) Memory Aids

Learning based on fundamental principles and logical reasoning and development which is understood, is more valuable, and more likely to be recalled readily than learning by rule of thumb methods.

5. THE GROWTH OF LEARNING

In learning one would naturally expect performance attained at successive stages of training to be related to learning time, but the relationship between level of performance and elapsed learning (training) time is not a simple one. That is, performance is not improved by equal amounts, in terms of productivity say, for each successive equal increase in the practice period.

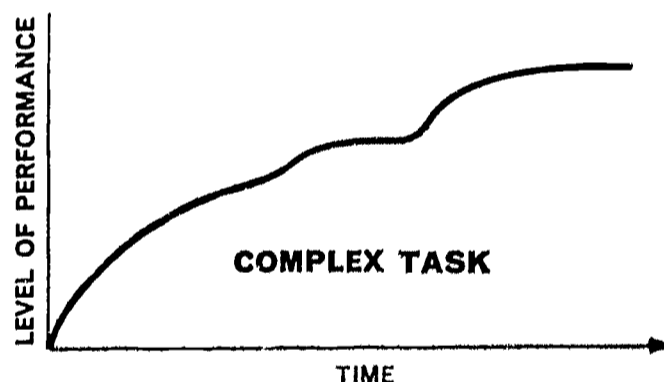
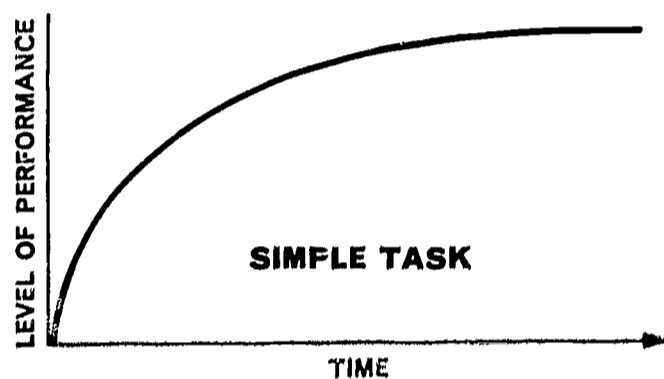
In most simple jobs or activities initial learning is fairly rapid and shows a steep rise at the beginning of the learning curve for the job. The curve flattens later as learning slows down. For simple tasks, the steep initial rise in performance, and the gradual flattening out as target level of performance is approached, should be the main characteristics of the learning curve. Some learning curves, however, show a too early flattening at a level appreciably below the target level of performance desired, or a number of flattenings (plateaux) which represent a hold-up in the development of performance.

Where the learning curve shows a single early flattening the cause may be poor instruction (inadequate theory or practice), poor

effort and attitude by the learner, or perhaps even that the learner is below par on grounds of ability, health, etc.

A series of plateaux is more likely to be found in the learning curve of complex tasks, each flattening representing a period of consolidation of a particular skill (or group of skills), until sufficient insight is gained for the next skill (or group of skills).

Learners checking on their own progress should be made just as aware of this characteristic of growth of performance as are those who instruct. It is at each plateau stage of development that the learner needs further help and special encouragement until further insight is gained, and another pronounced advance in performance is made.



6. SOME PRACTICAL CONSIDERATIONS AFFECTING LEARNING AND TRAINING

(a) Personal abilities, attitudes and motivating circumstances of the learner

An instructor or trainer must always remember that learners, as human beings, have different personalities and are drawn from different circumstances, but in the main are governed by the same kind of basic influences (needs and satisfactions).

People differ not only in appearance, height, weight, etc. but also in abilities, tastes, values,

temperament and aspirations. Some are more sociable than others, some more ready to accept responsibilities and seek opportunities to display ability. Some prefer to be followers, others would like to be leaders; some are likely to get bored with repetitive tasks, others will not mind them. People have different interests, emotions and points of view and one must respect the individual tastes, values and points of view of learners.

It must also be recognised that learners' attitudes to learning and work will be influenced by their very differing personal circumstances (age, home, social and economic influences).

Finally, and not least important under this heading, is the attitude of learners to one another. Each learner can have an influence on the rest; good influences should be fostered and bad influences checked, if morale is to be good and team spirit developed. Proper regard must be paid to these individual differences, and the special problems of adult learners, in the planning and conduct of instruction. Some useful points to remember are:-

- (i) One must endeavour to stimulate the brightest, whilst catering for the dullest, member of the group.
- (ii) Training tends to increase rather than narrow differences, unless special attention is paid to the less able.
- (iii) Interest and ability do not always go together, but interest often follows if ability is present.
- (iv) Older people usually have greater difficulty in learning because of the breaking down of established habits, and

Basic Needs

- (i) To make the grade in the job—partly as a matter of self-esteem and partly to earn the desired level of earnings for self and dependents.
- (ii) Opportunity to display ability and derive satisfaction from accomplishments.
- (iii) Sense of belonging and fitting into the work situation.
- (iv) Comfortable and congenial surroundings.
- (v) Fair and just treatment all round.

loss of the habit of attending and memorising.

- (v) It is not true, however, that older adults cannot learn new things. Learning ability and intelligence do not improve much after the age of reaching physical maturity and later decline, but experience (a useful compensation) is always increasing.

(b) Incentives and Motivating Methods

People are spurred into action if they have clear goals or targets ahead of them which they wish to achieve, or if the course or action pursued will enable them to satisfy a basic need. In the conduct of training activities, it is important to recognise that there are different basic needs which can be satisfied through work activity, and also that there are various motivating devices which can be applied.

Self-regard is strong in all of us, (we like to regard ourselves as good useful people and not as failures), and we all have a natural tendency to self-display (showing-off) which is probably instinctive.

Research has demonstrated quite clearly that positive incentives, particularly expressions of approval and chance of increased reward, are always better than negative incentives—blame, sarcasm, pressure or compulsion. Good discipline does not preclude friendliness, encouragement or fairness. Some examples of the basic needs of individuals and useful incentive conditions for learning are:-

Incentive conditions

Knowledge of progress. Friendly competition between learners. Graded, successive goals or targets. Recognition of relation between level of proficiency and level of earnings.

Early opportunity for doing; practice in useful productive activities. Praise and appropriate rewards for efforts.

Stimulation of interest by imparting knowledge of job and its place in the work of the organisation.

Proper attention to physical well-being and recognition by instructor(s) that learners may find conditions and work postures trying and fatiguing because unaccustomed to the activities.

Allow learners to express points of view, put questions, etc. Equal and fair treatment of all (one can be firm, fair and friendly without being familiar).

7. INSTRUCTION METHODS

The well established teaching methods followed in the field of general education, by which instruction is broken down into the following stages:-

- Preparation
- Presentation (Explanation and Demonstration)
- Practice and Testing
- Follow up

remains essentially sound for industrial training.

- (a) **Preparation** for each instruction period means, simply, as has already been indicated, that the instructor must have a plan, be familiar with the subject matter and teaching method to be followed, have the workplace properly arranged and demonstration material ready, and, not least in importance, put the learner at ease (in the right frame of mind).
- (b) **Presentation** for the instruction stage proper; presentation—a combination of **telling and showing** is always better than either telling or showing alone. Verbal descriptions and explanations are always a necessary complement to demonstrations but are naturally less useful than the latter for passing on physical skills. Explanations should, however, always be phrased in clear and simple language.

To appreciate the contribution to be made by each stage of instruction, it is helpful to remember that people's minds work in different ways. Some grasp a point better if given a visual picture; some if the operations are carefully explained; others still prefer to 'get the feel of the job'; (perhaps they are more 'muscular minded' and are little helped by verbal or visual instruction).

In discussion of the learning process we have already considered the contribution of our different senses to experience and learning in different situations and have suggested that the findings of research give an indication as to how instruction time should be divided between the different stages of instruction, e.g.:-

10% Explanation	} for the development of physical skills.
25% Demonstration	
65% Practice	

Explanation should be as simple and direct as possible; the teacher explains briefly the ground to be covered and what to look for. It is helpful in the preliminary stages of explanation to have machines, tools or equipment in front of the learner, and in later stages (once learners have acquired sufficient experience of operations) to carry explanation further with films, charts, diagrams or other visual aids likely to promote better understanding.

Demonstration is always an essential stage of instruction and particularly so for jobs in which skill is mainly a doing skill. It is an essential link between preliminary explanation and practice and makes use of people's natural inclination to imitate. Interest is usually aroused by good demonstration which itself should be undertaken in clearly defined stages.

The complete operation on which instruction is to be given should first be demonstrated at normal speed to give the learner a fairly clear picture of how the performance should be carried out eventually.

The second stage in demonstration is to demonstrate the operations slowly and in correct sequence, element by element, to indicate clearly **what** is done and the **order** of carrying through each part of the task, directing the learner's attention at each step. The final stage of demonstration is to demonstrate the operation again slowly, at least two or three times, to stress the **how, when and why** of successive movements. This stressing of **key points** in demonstration can often be assisted by use of one or other form of visual aid.

It must be appreciated that it is almost impossible to divorce demonstration from further explanation; some verbal comment is essential at every stage of demonstration to focus the learner's attention on the cues and clues to learning.

The requisites of good demonstration are:-

- (i) Careful preparation
- (ii) Avoidance of undue haste or a too rapid sequence of events
- (iii) Careful highlighting of each feature of the operation, firstly the **WHAT**

of the job, secondly the WHEN, HOW and WHY

- (iv) That it should not last too long—learners learn mainly through doing
- (v) That it should combine telling and showing
- (vi) That the learner must be correctly placed to see what is happening.

Visual aids are a useful supplement to demonstration if

- (a) they can demonstrate a piece of apparatus or some operation on a larger scale or more clearly than the instructor,
- or (b) they can indicate the wider uses or functions of the results of the operating in everyday life, i.e. create wider interest by taking the learner outside the place of work.

More usually such aids are of most help for background instruction, stimulation of interest, and defining quality and safety requirements. For this purpose a 'museum' of good and faulty work is most helpful.

(a) Practice (Imitation and Repetition) and Testing

In all instruction there comes a stage when the learner must be tried out to discover how far he is able to reproduce what has been demonstrated.

After a learner has imitated the instructor, constant repetition must follow (laws of learning); this practice is the most important stage of learning, especially if the skill is a doing skill. The arrangement (order) and spacing (time interval between) of practice periods is also of great importance:-

- (i) to avoid boredom
- (ii) to give frequency, i.e. sufficient exercise
- (iii) to give recency, i.e. to avoid forgetting.

It cannot be stressed too often that only **guided practice of correct movements** is likely to 'make perfect', and that good habits are more likely to be established sooner if mistakes are corrected **every time** they are seen.

In addition to developing target level of performances of particular individual elements of the total task during the practice periods of learning, conscious effort should be made by the instructor to develop co-ordinated or integrated performance, i.e. the smooth

combination of the separate elements of the task into a total job pattern.

Whilst stressing the need for the instructor to give close attention to the learner during early practice periods, to correct errors in performance that may be revealed, it must also be stated that a good deal of learning must be done privately. No one likes to be watched frequently, or be stood over, during practice periods. Occasional check visits are therefore quite sufficient during the later extended practice periods.

8. DURATION AND ARRANGEMENT OF INSTRUCTION PERIODS

The amount that can be taught in any one instruction period is limited to the attention that can be expected from the learner(s). Instruction periods should therefore not be too long; twenty minutes to half-an-hour is probably quite sufficient and 45 minutes probably the maximum.

Interest flags quickly, and even after ten minutes interest can fall off and boredom or fatigue set in. Accordingly it is better to teach a little well than a lot badly. Fatigue can be physical, mental, or a combination of both. For this reason the most exacting part of instruction and practice should be undertaken early in the day and the more interesting sessions reserved for later in the day to offset the fatigue effects. The pace of the slowest learner in a group will provide a useful guide to the amount of instruction which can safely be put over in any one period.

Different activities can be arranged even within any one instruction period and the pace and tempo throughout the period be varied. For example, a 'lesson' requiring a short period of great activity should start at a good pace and continue at a pace increasing to a climax. More generally an instruction period for the development of a particular manual skill might be arranged as follows:-

Practice (Revision) Test	.. Good Tempo	5 Mins.
Explanation & Demonstration	.. Mod. Tempo	10 Mins.
Individual Practice	.. Good Tempo	5-10 Mins.
Competition	.. Fast Tempo	5 Mins.
Practice (Revision)	.. Good Tempo	5 Mins.
Final competition	.. Fast Tempo	5 Mins.
Questions & Comments	.. Mod. Tempo	5 Mins.

The ending of an instruction period is just as important as the beginning. The instructor should invite questions, or himself question the learners; he should also summarise for periods which have been concerned mainly with imparting knowledge.

9. INSTRUCTION PRINCIPLES

From examination of the nature of the learning process we appreciate that learning will best proceed through explanation, demonstration and practice, and recognise that these activities must form the basis of sound instruction. We realise also that:-

- (a) Attention is related to interest
- (b) Explanation provides meaningfulness and insight
- (c) Demonstration provides additional insight and reinforces explanation by the vividness of impression it can convey
- (d) Practice makes fullest use of the laws of repetition, frequency, and recency, and is essential for habit formation—the essence of training activity.

Some important additional guiding rules regarding instruction are:-

1. Stimulate the desire to learn; interest and pride in job; awareness of the satisfaction that comes from skilled performance.
2. Observe a proper sequence of presentation, i.e.: proper learning order. This means — Teaching first things first
 - Starting from what is already known or has been previously taught
 - Proceeding from:-
 - The known to the unknown
 - The simple to the complex
 - The concrete to the abstract
 - The general to the particular
 - The observation to reasoning
 - The whole to parts and back to the whole.
3. Keep both instruction and practice periods within reasonable time limits. Learners become bored, stale, or fatigued, and monotony retards performance.
4. Work given during learning should be as productive as possible, then the work is meaningful and the learner feels his efforts are worthwhile. (Training exercises are also better if they are part of the job).
5. Arrange instruction and practice periods so that learners can experience some success early in training (it helps to maintain interest and provides the incentive to further effort).
6. Carry practice to the stage of 'over-learning'—to make good habits stick.

7. Knowledge of results provides further encouragement to learners.
8. Recognise that all learners do not develop at the same rate.
9. Learning cues may be received by any of our senses.
10. Avoid extreme emotion on the part of learners, i.e.: don't display anger or disappointment, or predict failure, but rather be patient, encouraging and reassuring in manner.

10. STAGES OF TRAINING

The training of workers new to the job may be regarded as falling into two distinct stages:-

The Basic Training Period

The 'Continued Training' or 'Follow up' Training Period.

- (a) **The Basic Training Period**, usually fairly short, is the period of intensive instruction and practice in all aspects of the job. The learner is under the close daily supervision of the Instructor throughout this period. At the end of this period the learner should know all that is required of him in the job and be able to perform each element of the task satisfactorily without assistance from the Instructor—though his level of performance may still fall short of normal.
- (b) **The 'Follow-up' Training Period** continues for the whole of the time required by the learner to reach a level of performance equal to that of the normal experienced worker. Only then can the trainee be considered to be fully trained. There are two useful landmarks to be noted during this period of extended practice, which all trainees need before they can be regarded as fully competent. They are:-
 - (i) Trainee able to work on his own without any assistance from the Instructor and cope with all contingencies which are likely to arise.
 - (ii) Trainee ready to be paid on Incentive Rates—i.e.: likely to exceed the basic or fall-back rate for the job by his own productive efforts.

The duration of the 'Follow-up Training' period depends upon the nature of the job but can be greatly affected both by the quality of 'follow-up' help given by the Instructor and the effort made by the trainee.

11. RATE OF LEARNING

As already indicated earlier in these notes, it is known that in most kind of jobs and activities, learning follows a similar and fairly definite pattern. During the initial stages of training a rapid increase in performance is obtained (and expected) but in the later stages of training the same amount of additional practice results in gradually smaller additions to level of performance. If this feature of learning is understood then the importance of careful follow-up of initial (basic) training will be properly appreciated.

During the initial stages of training the learner is encouraged by his own obvious improvements in performance and through the satisfaction that gradual mastery of the job gives him. In the later stages of training, however, the day by day and even week by week improvements become less and less noticeable to the learner himself, and on occasions temporary set-backs and difficulties may result in a standstill or falling off in performance.

At this stage the learner needs all the help that the Instructor can possibly give him. Sometimes it means failure to develop one or more 'knacks' of manipulation as well as he might have done, or a breakdown in some aspect of organisation of the work. Further explanation, demonstration and guidance on the part of the Instructor is necessary to encourage and stimulate the learner towards target level of performance.

12. TRAINING PROGRESS RECORDS

For the above reasons, progress records should be maintained for all learners throughout the training period. These records should be maintained by the Instructor and brought to the attention of the Foreman from time to time. Each learner's results (weekly performance) should also be shown and explained to the learner himself.

13. THE INSTRUCTOR—REQUIREMENTS

A. Personal Qualities

The Instructor must be a competent (but not necessarily the most skilled) worker; one who can gain the confidence and respect of learners and develop the ability to impart job knowledge and skill. This means that personal qualities

and teaching ability are just as important as competence in the work to be taught. An understanding of people and how to manage them, of learning principles and teaching methods, and a facility for explaining things clearly in simple language are all essential requirements. More specifically the requirements for the work of instructing may be considered as follows:-

(a) **Enthusiasm for the job is, perhaps, the fundamental need.**

- (i) Keeness about the job itself—i.e. instructing and helping others.
- (ii) Desire to achieve objectives of training,—i.e. bring learners quickly to good performance (quality and quantity) and earnings levels.

The personality of the instructor is vital, his eagerness of manner, interest and example are the keys to success.

(b) **Proficiency in the task to be taught, is essential to enable him**

- (i) to teach confidently
- (ii) to win respect and confidence
- (iii) to deal with learners' questions and difficulties.

(c) **Aptitude for teaching and practical demonstration.**

The instructor must be able to

- (i) break down the job into its elements or parts and explain the relation of the parts to the whole
- (ii) demonstrate the movements called for in each element of the job (as far as possible without altering them) and in such a manner that the learner can see the 'key points'
- (iii) indicate just what each part of the body should be doing and what each correct movement feels like, by drawing attention to information received by the senses, i.e.: eyes, ears, touch, muscle sense.

(d) **Ability to plan ahead and work systematically.**

The instructor should always have a plan of instruction to follow (syllabus and programme), because this indicates—

- (i) the total amount of ground to be covered
- (ii) how training time is to be divided into successive instruction and practice periods.

Even so, a good instructor must be able to adapt instruction periods to suit learners of different abilities, and this will only be done successfully if an attempt is made to think ahead.

(e) **Good manner and delivery of instruction.**

The instructor should be of good appearance, neat, alert and at ease, and the manner should be lively, confident and cheerful. A good deal can be achieved by gesture; facial expression; pitch, speed and intonation of voice—but exaggeration of these supplementary aids results in undesirable showmanship. The main requirement is to make oneself understood (i.e. to get ideas across) and through personal example maintain a proper pride in work and sense of responsibility among learners.

(f) **Ability to establish contact.**

Understanding of people and human behaviour, friendliness and a sense of humour are indispensable assets to the instructor. He must be a leader rather than a driver, persuasive, friendly but *not* familiar, and must develop the co-operative spirit among new workers.

B. The Instructor's Supervisory Responsibilities

Every job instructor has a supervisory as well as a teaching role to play, and accordingly should be conscious of the nature of responsibilities in this direction. Some useful points to remember are:-

- (a) The young school-leaver entrants to employment are used to a teacher, but wish to get away from the schoolroom atmosphere. They have also been used to short hours, varied activity, a fair amount of movement, and, in general, to ready help. Treat them as adults but make allowances, remembering that they are young and inexperienced.
- (b) A supervisor's role is to give limited tasks in a simple and direct way, and to check that tasks are carried out correctly

and on time (this suggests the value of targets and target times for training exercises).

- (c) Workers or learners are more likely to become difficult or mischievous if not kept fully occupied. Learners must be kept busy but without the feeling of being driven. Interest can be sustained by changes in activity.
- (d) Praise and encouragement, whenever merited, are likely to prove much better spurs to improved performance than reprimands. People like to be reassured regarding progress being made and knowledge of results can be helpful. Help over major faults and difficulties at first and concentrate on the finer points of practice later.
- (e) Be friendly without being familiar and distinguish between the needs of young adolescents and the older (adult) learners. The latter should not need the degree of close attention as the school-leaver learner, and will more readily resent close supervision and frequent correction.
- (f) Get to know your learners as people, their personal circumstances, hopes, fears, etc. This kind of information may often provide the answer to variations in individual learner performances. In getting to know them, note only information volunteered by them, and treat this as confidential; don't pry into, and never criticise, their private lives. Never discuss one worker with another.
- (g) At all times be scrupulously just and fair—consistent and treating all alike. It is possible to be firm *and* friendly.
- (h) Remember always the importance of personal example, e.g.: in punctuality, neatness, thoroughness, but try not to let it show if you are temporarily worried or depressed personally.

14. FURTHER READING

Further books on this subject will be recommended, on application to the Board's Research and Information Officer.

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