

INDUSTRIAL TRAINING

GUIDE LINES FOR EFFECTIVE OBSERVATIONS

* Bhushan M. Pradhan

ABSTRACT

Any technical course, whether diploma or degree level, includes industrial training. Any training without specific objective becomes as purposeless as a voyage without a destination. Guidelines given in this paper will be mainly useful in orientation period of training. The students do not know the aspect of the training or the importance of the various activities. At the time of meeting during training period, it is seen that they have not done the observations properly, and by this time they have already lost some period of training. To avoid this, an attempt is made to give guidelines, for observations, on report writing and a questionnaire is suggested.

INTRODUCTION

A workman without tools and an engineer without training remains ineffective. Any technical course whether diploma or degree level, includes industrial training. In some courses it may not be compulsory, in such case some students take vocational training. Any how, ultimately every engineering student has to undergo on the job industrial training after completion of the course.

WHY GUIDE LINES ?

Any training without specific objective becomes as purposeless as a voyage without a destination. For effective utilisation of the opportunity given in industrial training, a student should know what to look for, how to obtain it, and how to use it. Guidelines in this direction will be mainly useful in orientation period of training, i.e. the period in which students are on their observation rounds in various sections and departments of the industry. Assuming that

the orientation programme period is approximately about four weeks or one month, some guidelines have been given.

It is an undesirable fact that when students are undergoing training for the first time they are in awe of the industrial environment and organisational set-ups. They do not know the various aspects of the training or the importance of the various activities. In fact they cannot identify many areas of active work that deserves attention while undergoing the training. At the time of meeting during the training period, it is seen that they have not done observations properly or they do not know which are the things to be observed. And by this time they have already lost about seven to ten days. Therefore, the guidelines ought to be given before the training begins .

HOW TO GIVE GUIDELINES :

An orientation lecture should be organised by the Institute at least a week before the training begins. This lecture should be by a faculty member, who has had acquaintance with industrial atmosphere, a person who has worked in the industry. This first hand account will prepare them mentally to face the new environment with confidence. The lecture has to be followed by a question-answer session wherein the students can clear their doubts. This should be supplemented with printed/taped material which will serve as reminder, guide. This inductive type of approach will definitely take the students on the right path of observation

SUGGESTED QUESTIONNAIRE :-

The following Questionnaire will suit various types of industries [1]

Note:-

- i) The students should gather the information while undergoing the training on shop-floor of various sections
 - ii) Sketches should be drawn in appropriate situations.
- Q.1 :- Which activities are performed in the department ?
- Q.2 :- Give organisational structure of the department.
- Q.3 :- Draw plant lay-out of the department
- Q.4 :- Which are the various machines/ equipment/instruments used in the department?
- Q.5 :- Which are the hand-tools and portable tools used in the department ?
- Q.6 :- Give specifications of machines/ equipment/instruments.
- Q.7 :- What types of jigs and fixtures are used in the department?

Q.8 :- Give process lay-out of the various sections in the department and explain operations involved in detail.

Q.9 :- Which are the raw materials used in the department?

Q.10 :- What are the inspection and quality control activities at various stages ?

Q.11 :- What are the different safety precautions taken in the department?

Q.12 :- Which types of material handling equipment and methods are used in the department ?

Q.13 :- What type of electric supply is used in the shop ?

Q.14 :- How physical security of the shop is taken?

Q.15 :- What are the administrative activities related to the shop ?

QUESTIONS FOR MAINTENANCE DEPARTMENTS ONLY

Q.1 :- Which machinery / equipment /instruments are repaired in your department?

Q.2 :- What are the preventive - maintenance schedules for these machinery/equipment/instruments?

Q.3 :- What do you understand by break-down maintenance?

Q.4 :- Which trouble-shooting methods are applied to locate the failures?

Question for Assembly departments only

Q.1 :- The product assembled in the department is final assembly or sub-assembly? How it is utilised?

Q.2 :- Which types of assembly fixtures are used?

Q.3 :- What are the markings on various components for fool-proof assembly?

The above questionnaires is made in a general way. It should be modified according to the nature of industry.

REPORT WRITING

While moving through various sections/departments, the students will gather all possible information. After collecting the information from shop-floor, students will write the report of their training suitably supported with tables of authorisation and with illustrative diagrams, layouts, etc. They are not supposed to write the report in Question - answer form. For this purpose of writing technical report, the institute should give guidance. Questionnaire is given as a guide-line or direction for observations, collecting data, etc. and not as a question paper. The report in question-answer form will not be impressive, though it may be informative.

REMARKS

With these guide lines, students will definitely gather the useful information and avail the opportunity of industrial training given to them in a better way. At the same time, this basic background will be useful to them, in future, when they will enter the industry as a responsible engineer. They will definitely not be the square pegs in round hole. Few people may feel that this is a spoon feeding to students. But in any situation, at initial stage, the spoon feeding is the only effective way of making a good start.

REFERENCE

1. Pradhan B.M. -" Linkage Between Institute and Industry ", Proceedings of XXI Annual Convention of ISTE, Madras, Dec 1991 (112-115)

* * * * *