

INDUSTRIAL TRAINING - OBJECTIVES AND STUDENTS ROLE

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1. INTRODUCTION

The great majority of passouts from engineering colleges or polytechnics are destined for a productive life of practical action. They are going to do things, design things, make things, organize things, for the most part of their professional career in cooperation with other people. They therefore need to improve their "COMPETENCE", by the practice of skills and use of knowledge, to COPE better with their own lives and the problems that confront them, to DEVELOP their creative abilities and above all to co-operate with other people. Industrial training is the most valuable way to attain all these "CAPABILITIES". However, although, the present philosophy of education believes that any curriculum which has the aim of preparing students ultimately for the "The World of Work" must include some element of "Work Experience", the curriculum in Engineering colleges or Polytechnic hardly give place for industrial training. Where it finds place Industrial Training is limited only to deputing students to some industries without adequate preparation. The training is not supervised and ultimately it amounts to

completing a ritual and making it a farce.

In this article, it is proposed to present the objectives of industrial training and the role of students during the training. Guidelines to students and role of placement officers during the training would be discussed in separate articles.

2. OBJECTIVES :

The objectives of industrial training are varied and include :

- a. Opportunity for linking theory and Practice.
- b. Developing personal maturity
- c. Developing skill of thinking in practical terms.
- d. Facilitate systems thinking
- e. Gaining work experience generally and with a particular job function.
- f. Gaining personal insight - including job preferences.
- g. Developing professional attitude.
- h. Gaining knowledge of the working of a particular organization.
- i. Acquiring knowledge and atti-

tudes relevant to the later stage of the course.

Most of these objectives are self explanatory. However the following objectives are of central importance both to the industry and the students, so that out of an academic student, after a course of time an educated Engineer is available to industry. These are slightly further elaborated.

a) Linking theory and Practice :

Theory-practice link actually has a much more dynamic form than that which is conveyed by the image of "Theory applied to Practice". Some of the ways in which theory - Practice link is actually experienced are mentioned below.

- i) Identifying real life examples of phenomena discussed academically.
- ii) Using theory to reflect on these examples.
- iii) Experiencing limitations of theory
- iv) Seeing a wider context surrounding a particular discipline.
- v) Developing need for a multidisciplinary approach
- vi) Developing confidence in using a theory - based technique.

b) Developing Personal Maturity :

Industrial Training provides opportunity for developing maturity. Maturity can be considered to be the change in personal qualities from those mentioned under column A towards those mentioned in column B below.

From A	Toward B
i) Dependence on others	Self Reliance
ii) Passivity	Activity

From A	Towards B
iii) Subjectivity	Objectivity, taking views of others into account.
iv) Ignorance	Awareness
v) Dormant abilities	Manifestation of one's capacities
vi) Avoiding responsibilities	Volunteering responsibilities
vii) Narrow Interest	Broad interests
viii) Selfish	Consideration of fellow workmen.
ix) Self rejection	Self acceptance
x) No self identity	Feeling of self identity
xi) Focus on particulars	Focus on Principles
xii) Perfunctory attitude	Searching attitude
xiii) Imitative	Original
xiv) Impulsiveness	Rationality
xv) Rigidity	Flexibility, tolerance.

c) Skill of thinking in practical terms :

Students with purely academic background seem to exhibit a form of critical thinking though rigorous may, at times, not fit in the work situation. Some flexibility, tolerance, adjustment has to be shown in the practical context. Thus critical thinking has to be complemented with pragmatism.

d) Systems Thinking

Placement helps in inculcating "Systems Thinking". Often times, for the task in hand, knowledge, information, from an area outside the sphere of one's own subject, are required. Thus inputs from various sources and disciplines may be required in achieving a

task.

All this adds up to an awareness of the need for systems thinking, and viewing the organisation as a whole, as a system, functioning through complex inter-relationship of its many departments, and also open to outside world in the form of suppliers, customers, Government, etc.

3. THE ROLE OF THE STUDENTS DURING TRAINING :

The Industrial training is considered advantageous to the students as it makes them clearly aware of the world of work which is perceived as different from the world of class room. However this situation creates some ambiguities and difficulties regarding the role of the students during training. At the same time facing up and dealing with these ambiguities and difficulties causes valuable learning of the student.

Some of the ambiguities & difficulties are :

a) Whether the student is only Learner or Only Producer of work ?

These are the two extreme and perhaps contradictory roles students can assume or others may expect them to assume.

The ambiguity experienced by the student, work-supervisor or placement officer lies about where the balance between these two extremes is to be struck.

Some examples will clarify this point

A - Role of "ONLY producer of work" usually expected by work supervisor.

- i) Giving menial tedious routine

work on the pretext to give the student a taste of industrial life.

- ii) Looking to the student as an extra pair of hands.

- iii) Student identifying himself thoroughly with his fellow workers and forgetting his real aim.

B - Role of Only Learner"

Usually expected by the students and some times by placement Officers

- i) Student assuming a position of academic critique.

- ii) Student assuming too fussy or overzealous attitude to each detail of his work.

b) The student often has an odd status, within the organisation. He may face resentment from the regular staff, resulting in their non co-operation.

c) The student has an odd position as far as educational back ground is concerned. His level of education will certainly be higher or lower than that of other employees doing the same level of work. Such employees especially if at lower educational level may have a negative attitude to higher education and training, reflected many times in their sarcastic remarks on persons with higher qualification.

d) The students are at times put in a difficult situation regarding their loyalty, whether they should be loyal to college or the industry ?

These difficulties and ambiguities are inevitable during the training. But they bring out the creativity of students, which help them to come to some accommodation with their difficulties on their own and this is one of the important aspect of training. If this does not happen, the world of work has

not entered into the lives of students in all its concrete reality and students have failed to become fully aware of the difference between the classroom and the work place.

The only care to be taken is to minimize the tensions and stress created by the ambiguities. Another point is that the students do become capable of behaving in the manner which passes as appropriate in the industrial setting. Students absorb appropriate practices of the work place including the deleterious work practises, tricks to circumvent quality control also. It is desirable that the students not merely absorb the norms unreflectively but know that they are doing so and are able to

comment on them regarding their desirability or otherwise.

4. CONCLUSION :

If full benefits of industrial training are to be derived, everybody concerned, must keep the objectives of the training in mind. The students should be made fully aware of not only these objectives but the difficulties also which they are likely to experience. In short the students should be well prepared for the training and accordingly guide lines should be set for the students

(Based on "Managing Work Experience" by Peter Ashworth and Judy Saxton)

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