

ORGANISED FIELD TRAINING FOR ENGINEERING STUDENTS AS A PART OF CURRICULUM

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ABSTRACT

Field training during summer vacation is an essential part of the curriculum of the technical education in our country. Training period varies from six weeks to eight weeks, generally. It is observed that generally the students are sent to certain organisations through the help of the Institute mostly to their home towns or places nearer to the home. Students report back to the institute after the desired period and some viva etc. is conducted for the evaluation to be done. It is observed that the students produce a certificate from the concerned organisation just by his contacts. Surprise checkings have shown that rarely the students are present on the job site or come regularly and work honestly during this period. Precious time is lost and the gain is negligible. Students on field training does not know some time about the organisational structure of the place where they are deputed. In this way the purpose of field training i.e. Industry Institute linkage and institute-real life situation exposure is totally lost. This inhibits the genuine growth of a technical student in terms of initiative and responsibility. This paper stresses the need for the supervised field training and the tools of evaluation to be used at the host organisation for doing a judicious and proper grading of students. It also stresses the need for permanent field training stations for the teaching institutes which will make the system more effective and meaningful.

INTRODUCTION

The training programme or field training in any institute can best be described as an attempt to institutionalise efforts to bridge the gap between the professional world and academic institutions. The entire effort in training process should be in terms of extending the programmes of education and evaluation beyond the class room of a college or a university. The training programme or sometimes called as summer training or field training is of six to eight weeks duration after the first year, or second year of four year engineering degree programmes. It is varying from institution to institution. This programme should be

exposure oriented and aim at initiating and orienting the students to the professional world so that they become familiar with the host organisation, the technological processes and the method of identifying various problems and situations which require interdisciplinary approach. During this process it should provide an opportunity for students to satisfy their inquisitiveness to know more details. These circumstances will expose them to new analytical and technical skills and help them to acquire skills to communicate with and seek information from the professional people. Hopefully, after they have been enriched with this kind of exposure, the students can participate more effectively in

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professional courses which they will be offered in the subsequent years.

(A) ORGANISING OF TRAINING PROGRAMME

Almost all technical institutes are having training programmes as an integral part of the 4 years or 5 year curriculum. Also it constitutes evaluation component of about 100 marks for each summer training which forms a good component of marks in a 4 year degree programme. In several institutes, the summer training part is not treated at par with the other courses of the curriculum and institutes show scanty interest in organising the training centres and evaluation of students.

It is to be stressed here that until institutes have a well planned programme of training and coordinate them with professional and managerial skills, students are not going to be benefited with so called field training or summer training. Coordinated efforts of the institutes through their training and placement cells are required in this direction. Following points are very important in successful organisation of the training programmes in engineering institutes :

- 1) Identifying the branches of students to be sent.
- 2) Identifying the host organisations with respect to branches of students.
- 3) Exhaustive correspondence or visits to select the host organisations.
- 4) Commitment from host, organisation to take atleast 7-10 students for training during the identified time in summer.
- 5) Commitment from host organisation to provide some accommodation to students and faculty supervisor.
- 6) Allotment of students to different organisations keeping in view their preferences.
- 7) Nomination of Faculty supervisor for each host organisation or more than one organisation in the same city or place.
- 8) To compile the joining reports of the students at their respective host organisation.
- 9) To compile the marks of students received from faculty supervisors of respective stations on the basis of evaluation done there.
- 10) Normalise the marks and award the grades/marks.
- 11) To get the feed back from students about the host organisation and conduct of the training programme, for future consideration.

(B) THE ROLE OF FACULTY SUPERVISOR

In order to elicit cooperation from organisation, it is found from experience that the supervising faculty has to play a positive role in making the people in the organisation aware of the institutes educational programmes, its philosophy and training policy. This can be achieved either by informal discussions with the concerned professionals by arranging special orientation programme for some officials. At times the students participation in such an attempt would be very fruitful and encouraging for the future.

In order to achieve these objectives a set of guidelines for conducting training programme at all stations by various faculty supervisors has to be made and implemented at various stations. A few of these are :-

- i) For implementing the guidelines, faculty supervisor has to play a very important role through his sincerity and leadership quality.
- ii) He has to act as a liaison between the host organisation and students and the institute.

- iii) He has to supervise the students activities throughout the duration.
- iv) Conducting of orientation programme for the students in the host organisation.
- v) Help the students in choosing the projects to work at the training station.
- vi) Conduct the seminars and group discussion of the students on the relevant topics.
- vii) Involve the professionals of host organisation in seminars and group discussions.
- viii) To organise special lectures from experts-for the students.
- ix) To do the day to day evaluation work of students based on various evaluation instruments.
- x) To motivate the students in their work and maintain a proper discipline at the host organisation.

Needless to say that training programme of under Graduate students can be made effective and meaningful only with the help of faculty supervisors who are like ambassadors of the institutes to the host industries.

(C) EVALUATION SCHEME

In order to bring about uniformity in evaluation at each of the training stations and minimum subjectivity in evaluating students, it is essential to adopt a unique rational and unified evaluation procedure at all stations . Here we bring out one such scheme which is well tested.

The instruments of evaluation are Quiz, seminar, Viva, group discussions, project report, daily observation by faculty supervisors.

Through these instruments, students should be judged for various characteristics as mentioned below namely :

- i) Knowledge of concepts

- ii) Application of principles
- iii) Intellectual ability
- iv) Creativeness and originality
- v) Professional judgement and decision making ability.
- vi) Interdisciplinary approach
- vii) Skills for data handling
- viii) Documentation
- ix) Self expression
- x) Initiative
- xi) Self Reliance
- xii) Cooperation
- xiv) Leadership
- xiv) Industry
- xv) Sense of responsibility
- xvi) Social and behavioural sense.

It may be emphasized that the evaluation scheme as suggested would provide objectives of various instruments of evaluation as well as guidelines on which to look for, in these instruments and thereby develop them.

(D) WEIGHTAGES OF DIFFERENT EVALUATION INSTRUMENTS

The above mentioned six instruments of evaluation have been given weightages as follows:-

Instrument	Weight - age	Suggested frequency
Quiz	10%	2
Seminar/Viva	25%	2
Group Discussion	15%	2
Project Report	30%	1
Observation	15%	Continuous
Diary	5%	Continuous

However, if faculty supervisor wishes to deviate from the suggested evaluation scheme given above due to any special reasons, he should seek prior permission from the institute's training cell.

(E) POINTS JUDGED THROUGH EACH EVALUATOR INSTRUMENT :

This section provides general and important points of evaluation in each of the instruments. These are given in the Appendix-I i.e. evaluation matrix. It is suggested that while evaluating a student in a particular instrument, these points with their weightages be taken into account.

CONCLUSION

From this discussion and observations it is evident that for the effective training of students of technical institutes, there is a need of well planned supervised training, with the uniform evaluation system for all

the students at all host organisations. An exhaustive work is required to be done by the institutes to select the host organisation and coordinate the various training centres, their working and evaluation through a special training cell of the institutes.

REFERENCES

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EVALUATION MATRIX

APPENDIX-1

Sr. No.	Characteristics	Evaluation Component						Total
		Quiz	Seminar / Viva	Group Discussion	Project Report	Observation	Diary	
1	Knowledge of basic concepts & physical principles	2	2					4
2	Additional knowledge acquired	3	3					6
3	Ability to apply the knowledge of basic concepts and physical principles	3	5					8
4	Knowledge and comprehension of the problem			3	6			9
5	Ability to analyse a given problem situation	1	5		6			12
6	Logical path followed in problem solving effort	1	3		2			6
7	Ability to suggest new ideas			2				2
8	Industry					3		3
9	Introducing the problem and setting the objectives of the project				3			3
10	Organisation of the matter				2			2
11	Data handling				2		2	4
12	Presentation of the abstract with precision				3			3
13	Concluding remarks in terms of the objectives set & future scope of the problem				6			6
14	Ability to lead discussion in the right direction			2				2
15	Level of participation			3				3
16	Ability to indicate the topic when discussion subsides			1				1

(P.T.O.)

17	Effective oral communication		5					5
18	Self-reliance and cooperation		1	1		1		3
19	Thought Process						2	2
20	Moderating discussion		1	1				2
21	Initiative, leadership					2		2
22	Sense of responsibility					3		3
23	Regularity and meeting dead lines					3	1	4
24	Social sense and adaptability to practical situations					3		3
25	Ability to create good impression & set accordingly			2				2
	Total :	10	25	15	30	15	5	100

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