

SEMINAR AS A PART OF TEACHING CURRICULUM FOR ENGINEERING STUDENTS

* Dr. S.C. Sharma, **Dr. R.C. Chauhan

ABSTRACT

The present paper deals with the experiment done by introducing seminars as a part of teaching curriculum for internal assessment of the students ability to learn and express. The exercise has been done to inculcate the expressive capabilities in the students of engineering who are otherwise shy and non- communicative inspite of the good knowledge they are possessing. Some guidelines for the preparation of the seminar have also been discussed, which include the preparation, organization and visual aids etc.

Introduction :

Technical education is an integral part of our education system which needs to be reviewed from time to time so that it is not obsolete and the students who are the builders of the nation may not lack the various capabilities which are required for their successful performance. In the present time the expression of the students is equally important as that of teachers. The skill of effective communication and understanding is very essential in the world of technical & commercial competetion.

In most of our technical institutions hardly any effort is being made to

promote the expressive capabilities of the students. Some institutions like I.I.T's & BITS are in the advantageous position because of the better schooling of the students entering into these institutions, but in 90% of our institutions students intake is from middle level environment where the students are quite hesitant, reserved, inhibited and unable to communicate properly their subject matter inspite of the fact that they may be knowing it well.

In this paper certain observations have been made by introducing seminars as an essential part of the subject curriculum. The evaluation is done for the purpose of the internal assessment.

* Asst. Professor, Env. Engg., REC, Hamipur, **Principal, REC, Hamipur.

Some observations are made about the traditional load of home assignments for the purpose of the internal assessment. Various techniques have been briefly discussed here. The urgent need is felt for introducing seminars as an essential part of the curriculum at UG and PG levels.

Home Assignments

Home assignments are used for internal assessment for quite sometime. Generally a problem sheet or assignment sheet is circulated to the class and students are required to submit that after some time. Mostly the assignment is common. The purpose is to give the students a practice hand on different problems and make them understand and analyse the different situations themselves. But this does not happen because of the following reasons :

- (i) A big load of home assignments from every teacher teaching them.
- (ii) Copying of the answers from each other in the hostels.
- (iii) Irregular marks distribution (Boy who has done the assignments himself may get less marks as compared to that who copied from someone).
- (iv) Lack of motivation by the teachers.
- (v) Common problem sheet to all the students.
- (vi) Doing the assignment without any

understanding.

- (vii) No improvement in his expressive capabilities inspite of doing lot of work at home.

All the above points have been made on the basis of the feedback from the students of different levels in our institute. This does not mean there should be no home assignments for engineering students. But a proper balance has to be made in this. There may be certain subjects where some home assignments may be necessary. But in such cases the teacher has to work more for designing the problem sheets and then evaluating it judiciously.

Introduction of Seminars

The introduction of seminars at second, third & fourth year level in certain subjects for internal assessment purpose has been tried. In one of the two tutorial hours in a week the seminar has been conducted. Time duration is 10-15 minutes discussion. Three seminars are being conducted in each tutorial hour. Students are given the seminar topics about two weeks in advance and they are required to prepare for it by consulting the library, teachers and their friends. Students are required to give the write up of the seminar which is also evaluated. Evaluation of the seminar is done on the basis of following points :

- (i) Write-up of seminar.
- (ii) Delivery of the topic before the audience.

(iii) Use of Blackboard and other visual aids.

(iv) The way of expression on the dias.

(v) Response to questions.

After continuing this practice for three semesters continuously with different level students, the feedback has been taken from time to time. Following observations are made on that basis.

(i) Students find it highly motivating.

(ii) Confidence is generated in the students by repeated performance.

(iii) Expressive capability improved every time.

(iv) Improvement in their language and vocabulary to some extent.

(v) Highly satisfied with the evaluation of seminars.

(vi) Improvement in report writing or technical writing.

(vii) Learned to respond to questions calmly.

(viii) More confident to face the interviews for jobs.

(ix) Improved blackboard work.

(x) Learning the use of library and different technical journals abstracts, and indexes references.

In addition to the above students feelings, as a teacher we feel that it is helping several students who are shy, reserved and noncommunicative. Seminars are helping many students who are from rural areas and are not exposed much. There is a general improvement in personalities. Also through several topics discussed in seminars of a subject the wide coverage of the particular subject occurs in addition to the matter discussed in the lectures. This broadens the limitations of the course contents prescribed. The regular dose of seminars at undergraduate and post graduate levels will produce good engineering teachers who are motivated and have well developed basic communication skill.

Preparation of a seminar :

On the basis of the above exercise some guidelines have been worked out for the preparation of a seminar by the students. These are as follows :

A. Organization :

The most important feature of a seminar is its organization. Speech organizations is basically the same as report writing. The important steps are given below :

A-1. Determination of Objectives :

A seminar should have a clearly understood and articulated objective. The objective will vary with the nature of the work being reported & with the audience. One of the important rules of a good seminar is "Know your audience".

A-2. Preparation of an outline for a seminar :

After determining the objective, an outline of the whole matter to be presented in a seminar should be prepared. The whole outline can be divided into three parts :

- (1) **Introduction** : It serves two functions; the first is to start the talk, i.e.; to "break the ice" and the second is to introduce the subject matter of the seminar and explain what the objective is. Actually speaking, this is the place to gain the attention of the audience.
- (2) **Body** : This is the major portion of the seminar. The arguments which support the objectives given in the introduction should be logically developed in the body. Facts and data should be presented in a form which can be easily grasped as they form the basis of arguments. The best seminar contains only one or two principle conclusions or objectives supported by clear arguments.
- (3) **Conclusion** : Like the introduction, the conclusion also serves two functions. The first is to summarize the data, repeat the objective or to describe what was accomplished by the work. The message which wants the listener to take precisely. The second function is to indicate clearly that the seminar is over. This can be

done by some lines. A simple "Thank you" is good enough.

- (4) **Preparation of written draft** : Although many experienced speakers are able to speak extemporaneously, yet the safest approach for the beginner is to prepare a written draft of what exactly he is going to say. The use of the right word or phrase can make the difference between a successful seminar and a weak one. Written draft can also be evaluated in case of beginners.

Visual Aids :

In seminars, the use of visual aids is permissible. Visual aids are used to impress a particular relationship upon the audience or to demonstrate visually a verbal message. The speaker may utilize as many as possible to communicate an idea to his audience. It is essential that the use of visual aids be appropriate. It should serve the purpose of reinforcing the understanding of the audience. There are many types of visual aids. Some of them are :

- (i) Blackboard & Chalk
- (ii) Overhead projector
- (iii) Slides & Projectors
- (iv) Prepared line drawings & chart
- (v) Three dimensional models etc.

All the visual aids may not be available at a station. A visual aid avail-

able at almost all stations is blackboard and chalk. Charts and line drawings can be made by the speaker himself.

It should be noted here that visual aids should be used only when they serve a purpose. While making a visual aid, the overall objective should be kept in mind. In case charts and drawings are made to use as visual aids the following points should be borne in mind.

- (i) Drawing & lettering are large enough to be seen even by the last row of the audience.
- (ii) More than one simple charts are better than a single complex chart.
- (iii) Use of different colours wherever it is possible.

A successful use of the blackboard is not only an art but a professional requirement. In addition to this platform manners and the voice are also important contributors for a successful & effective seminar.

Concluding Remarks :

This paper reports the importance of seminars in the teaching curriculum of

our institutes. The observations made here are of value to improve our teaching methodology and evaluation techniques. It is high time to introduce such changes alongwith the techniques which are tried for years. No hesitation should be there to introduce the seminars at any level. Younger students are more adaptive, assimillative and appreciate such techniques and cooperate fully in these activities. This adds to self study & responsible attitude of students. Efforts may be made to introduce such seminars at the earlier stage of technical education.

References :

- (1) You and your students : Prepared by faculty committee of Massachusetts Institute of Technology (1966).
- (2) "Improvement of Engineering Techniques" : Journal of Engg. Education, 43, September, 1952, 33-46
- (3) "Educational Measurement and Evaluation" : Remmers, Hermaum H. and crage, Nathaniel H. New York Harper Brothers, 1955.

* * *

QUALITY

Quality is never an accident, it is always the result of determined and directed activity, sincere effort, intelligent direction and skillful execution; it represents the wise choice amongst many and varied alternatives.