

TEACHING TECHNIQUES

* Prof. G.D. Bhatt **Shri. S.S. Shikh

General :

Good teachers are made, not born. The teachers have to gain their ability as good teachers by hard individual work, by a deep interest in their students' progress and welfare, and usually by pursuing a long road of individual experimentation and development. Yet, how a few of us regularly spend even one percent of our annual professional time deliberately studying the mechanism of teaching - with a view to self criticism and self development. In the long run, such time is well spent and it repays itself many-fold in improved teaching efficiency and in actual time saved.

This paper is not intended as a formula to tell experienced and successful teachers how to teach. Rather it is an effort to distill from their success those principles which have a recognised soundness, and to set these down in an orderly fashion as a starting point for further development and improvement.

Educational Team Work :

Educational Institutions exist for many purposes, including the preservation, organization, and transmission to new generations of old knowledge, the discovery of new knowledge, and the development of wisdom in the use of knowledge.

In a four-year degree course at Engineering College the average student devotes about 5000

hours to curricular work, including preparation time and class time. The principle of group instruction has been applied to education to reduce unit costs to a tolerable level. The educational process is one of term work between students and faculty. Every instructor continues to be a student, and every student must learn how to become his own instructor in later life. One of the student's goals must be to find out how to learn what he does not know. He must develop the skill of acquiring new knowledge and of applying it wisely.

The students qualifications must include the ability to learn and desire to learn. The teacher's qualifications must include qualities of inspirational leadership, the desire to teach, knowledge of the subject and its relationship to other fields which lie at its borders, and the ability to transmit knowledge to the student so that it is alive and meaningful.

The learning Process :

Learning and teaching are parts of one general unit process. Superior teaching rests in part on a clear appreciation of the learning process. An awareness of the mechanism of

this process helps both students and teachers in their joint undertaking.

An illuminating approach subdivides the learning process into three steps (1) Comprehension (2) Recall (3) Creative thinking.

Comprehension :

It is the absorption of ideas. Successful comprehension of a new idea generally requires a motivation and a desire to learn. The student will usually wish to learn if he can see that the material being presented may be useful and if he can feel that he is making visible progress. Comprehension of a new idea requires an adequate background of related knowledge more briefly, prerequisites. The new idea must be expressed in a vocabulary which is familiar to the student.

True comprehension generally requires undivided attention. The chronic mental wander may fail to learn merely by missing the first step comprehension.

Recall :

It is the process of remembering. In a restricted but useful educational sense, we mean by the word "Knowledge" only the power of volitional recall of comprehended material. Then knowledge is a two step process : first comes comprehension, or understanding of the item, later comes recall, or remembering of them. In this sense the concept of knowledge does not necessarily extend to the next intellectual step, which involves creative thinking, or more simply, the new use of knowledge.

Creative Thinking :

The aim of a scholar and of a University must greatly transcend the mere acquisition and transmission of knowledge. These processess alone simply preserve

knowledge without contributing any intellectual progress.

It is clearly insufficient merely to teach facts, or merely to learn facts, knowledge alone, as represented by comprehension plus volitional recall, is not sufficient. The creative use of knowledge must be the goal of both student and teacher.

Every teacher asserts that he is trying to teach his students "to think". Most simply, *thinking is the transfer of learning to new situations.*

The anatomy of thinking - that is, of the creative use of knowledge - needs consideration. It is useful to recognize several approximate and non-exclusive categories of "thinking".

Organisation And Correlation of Ideas :

This category of thinking involves the recognition of common factors among a variety of ideas. e.g. the correlation of electrostatic phenomena with gravitational phenomena.

Elaborative Thinking :

Describes the process of bringing many sources and types of information to bear on a new problem or situation. It includes some cases of reasoning by analogy and of carrying knowledge in one field over into a second field;

Critical Thinking :

involves reflections on the consequence to be expected if a proposed action is taken. It includes the evaluation of experiments, mathematical derivations or political theories, often by comparison with a standard.

The highest type of teaching involves helping the student to acquire the *ability to apply his knowledge* to new situations that is to think.

The educational process is seen to involve three steps comprehension, recall and creative thinking.

Objectives :

The teacher's general objective in each meeting of the class is to implant in the minds of his students at least one new piece of information, a new technical skill, or a new experience in creative thinking. Teacher should see the following things :

- Objectives of each subject should be planned.
- It should fulfill the overall purpose of each particular course.
- To cover entire subject should be there.
- The teacher, in his day-to-day planning of the class activities, should adopt a view point which will maintain in proper perspective the objectives of the subject, of the course and education itself.

The material to be covered in any particular subject of instruction needs to be carefully selected. It is generally not possible to cover the entire subject. The most successful teachers are often those who teach less material but do it profoundly. We should "aim not to cover the subject but to uncover part of it".

Technique of Teaching :

The teacher should see the following steps :
Before the term begins : Teacher should plan for the entire term, in the light of the objectives of the subject and its relation to the curriculum. He should treat topics well in

the class. He must guard against chronic underestimates of the time required for the students to grasp a given time.

- Teacher should give advance outline of the material to be covered.
- Plan in advance for quizzes to be given at the time of continuity breaks between topics.
- Decide in advance what material you are assuming
- The student already knows.
- Be definite in your consideration of these prerequisites.

Before the term begins, plan and begin to procure these teaching aids which requires time for preparation, such as models, charts and slides, so that these will surely be ready when needed.

Inspect your class room before term begins as full comfort is required in the class.

Before each Lecture : Make a careful plan of what you expect to accomplish. Keep in mind the relationship of the day's learning to the objectives of the subject and of course. Be sure of your presentation, emphasis and adequacy of time allotment.

- Prepare adequate notes and master them so that an occasional glance is the most help you will need from them.
- If you have previously taught the same material criticise yourself.
- Make a considered selection of the most important or the most stimulating material, allowing time for questions and discussions by the students as well as for necessary repetition and summary.
- Do not reproduce the same material from text book.

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- Plan provocative questions and illustrative problems and situations in order to stimulate the student's interest, his oral discussions and his critical evaluation of the material.
 - Do not be too quick to help a student who is struggling with a problem.
 - Use a variety of techniques of presentation.
 - Level your attention and your planning at individual students.
 - Develop a warm, friendly relationship in the student-teacher team.
 - Move from the known to unknown.
 - Moderate amount of varied repetition is desired.
 - In teaching, try to appeal to as many of the receptor senses as possible.

- the most common teaching aids, arranged in order of merit -

*Actual objects * Two dimensional reproduction * Black board

For Laboratory Instruction :

A COHERENT COURSE of laboratory instruction first tries to introduce the student to the scientific method and the use of apparatus and then, as

he becomes acquainted with techniques by practice, attempts to allow greater and greater freedom to apply his knowledge to individual problems of his own choosing.

Adequate preparation is required of both student and teacher

Conclusion :

To be a good teacher, it is essential to master techniques of teaching. In the long run the teacher will derive job satisfaction and students will develop appropriate abilities.
