Motivated Learning at Teaching Institutions and in Industry: Reminiscences and Reflections

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ABSTRACT

The role of the educational technologist is deemed to span over a major part of life, involving school education, university education, on the job training and retraining while in service. Each individual has a tremendous potential to do things. It is for the educational technologist to facilitate its utilization by the individual through creative exertion. Education is not to be restricted to one class of people. For example, in a manufacturing industry, the education plans includes not only its managers, supervisors and workmen, but also its suppliers and customers. In this paper, the authors recollect their experiences concerning motivated learning at teaching institutions and in industry and plead for innovative methods. The availability of a disciplined, committed and affectionate teacher possessing a fund of knowledge (be he a professor or a manager) can be highly motivating to the student or employee. An academic or corporate environment that actively supports such a teacher can be highly motivating to the teacher.

1. Introduction

With prolific growth in computers, documentation facilities, videocassettes, satellite television, part time and correspondence courses and open universities, availability of information has ceased to be a constraint in the acquisition of higher-level knowledge. The emphasis in educational technology has now to be shifted to the motivational aspects of the learning process. In this paper, the authors recollect their experiences concerning motivated learning and plead for innovative and bold approaches in the processes of selection, education and assessment of both the teacher and the taught.

The study of motivation has to do with analysis of the various factors, which incite and direct an individual’s actions. The problem of motivation and the problem of learning, that is, how behavior changes as a result of training and practice, are intimately inter-linked. When the process of learning is examined, the primary consideration is to account for changes in an individual’s tendency to behave in a certain way as a direct consequence of past experience (1).

2. Attitudinal Changes

There was a time when a teacher automatically occupied a position of eminence in the society as seen from the adage – ‘Acharya devo bhava’. Now teaching has been reduced to just one of the many professions that have mushroomed with fast progress. The teacher’s authority having dwindled, motivational approach becomes necessary for achieving any measure of success. Students are now offered wide choice from a variety of courses. If the teacher cannot sell his subject, there will be no takers.

The availability of a disciplined, committed and affectionate teacher possessing a fund of knowledge (be he a professor or a manager) can be highly motivating to the student or employees. An academic or corporate environment that actively supports such teachers can be highly motivating to the teacher.

3. Total Education

Education is no longer just imparting technical knowledge alone. It is building up a personality.
It is preparing an individual to fit into a team, to lead, and to be led, in order to strive towards a goal. Each individual has a tremendous potential to do things. It is for the educational technologist to facilitate its utilization by the individual through creative exertion.

The aim of teachers is to give the students as firm a grasp of a subject as they can, and to make him as autonomous and self-propelled a thinker as they can – one who will go along on his own after formal training has ended (2).

Education is not to be restricted to one class of people. For example, in a manufacturing industry, the education plan includes its managers, supervisors and workmen, but also its suppliers and customers. In a school, parent-teacher meetings are held for the education of both.

4. Resistance to Change

A lady wearing glasses for the first time was asked how she felt. 'It is fine', she said, ‘except that every thing looks sharper than it really is’ (3). Resistance to change is natural and it is a serious obstacle in the learning process. Educational programs should therefore include specific modules directed at demolishing this resistance. Just as a vaccine can immunize one against disease, doses of change administered appropriately will bring down the resistance to change.

An engineering or medical college in AP should have students from all over India except AP. This also minimizes political interference in educational institutions. Residing in the hostel should be compulsory. At IIT Bombay, even the professor’s children admitted to IIT had to stay in the hostel. A cosmopolitan atmosphere in the hostel has its own educative value. Another good practice was the appointment of head of the department by rotation. In the industry, transfer of persons to other s, deputation to other organizations, sponsoring for seminars and management courses will help in reducing the resistance to change. The key lies in making the individual play a role different from the one he has been accustomed to play.

There was a small elementary school by the name Sarada Vidyalaya in Madras near Mambalam Railway station. This was in the late fifties. The school may still be there. It was made of huts with coconut leaf roofs. The children sat on wooden planks without desks. From this you may judge the financial status of the school. But there was no dearth of innovation and discipline. Every Wednesday afternoon, there was an assembly session in each class. The child had to say a few sentences on a simple topic. It was a wonderful experience, learning to face an audience and interact with it, so early in life. Many schools and institutions do offer such opportunities today, but only to the cream or privileged few. It was remarkable that this small school in Madras offered to every student. There lies the novelty and uniqueness.

Again take the case of Methodist School and a few other schools in Hyderabad in the sixties. One day in each year was set aside for the students to manage. On that day, the students would act as teachers, teaching lessons in subjects of their choice; the head master and even the man who rang the bell were students. Another admirable feature of the school was that in each class of fifty students, all those who secured more than 60% in the monthly test were exempted from paying the tuition fee as an incentive, irrespective of his economic, social or religious status. Ex-students of the school vividly remember these highly motivating experiences.

5. Motivation and Team Work

Although it is sometimes true that 'too many cooks spoil the broth', there is no doubt that in certain situations, human goals can be achieved more efficiently by cooperative effort than by individual endeavor. In a study in which a high degree of inference and judgment was called for, group solutions were better than the average individual solution, but not better than the best individual solution. In creative thinking, group participation has not been found to be superior to individual effort (4).

A team will be successful if all the members work to achieve the same goal. It will fail when there is no seriousness of purpose on the part of the members or the convener. Status differences of the members have not been found to be obstacles to success as demonstrated by the teams working for private land deals and share business.

The benefits of teamwork were demonstrated by playing a management game (5). Teams were formed with a leader for each group. The participants were to imagine that they were on a sinking ship. Quickly each member of the teams
and their leaders had to decide individually the priority of the items they should carry on to the lifeboat. After noting down their priority list, each group leader discussed with the members of his team and arrived at a new order of priority. For instance, teetotaler leaders who had given rum the last priority were convinced on discussion with their group members that rum had to be swallowed to survive in the open sea and as such it should be accorded higher priority. A shaving mirror climbed up in the priority list when it was pointed out that it could be used for signaling to rescuer ship by reflecting sunlight.

In some colleges where the students are many and facilities few, five or more students are given one experimental assignment. Normally the bright boy in the group completes the assignment and the others copy his report. In industry, it is often found that task forces or committees do nothing. Role definition of each member in the group is therefore very important. Overlapping and duplication of roles is to be avoided.

6. The Learning Process

Learning involves modification of future behavior as a result of past experience (6). It is a process, which brings about changes in the individual’s way of responding as a result of contact with aspects of the environment. Since learning must be inferred from observable changes in behavior, a number of criteria of learning are used. These include accuracy of response, speed of response, strength of response, probability of interference. A number of factors, some related to the learner’s own ability and experience, some to characteristics of the subject matter, and some to the external situation, influence the course and quality of learning. Learning may be improved by intent to learn and by reward and punishment. Intrinsic motivation usually lead to better learning rather than extrinsic motivation such as grades. The effect of stress on learning varies with individuals, acting as a strong motivating force to some and causing damaging mental blocks or anxiety reactions in others (4).

7. Learning Techniques

The absorbing capacity being not the same in all, the conventional lecture method fails to motivate some learners. Normally the lecture is tailored to suit the average student, resulting in boredom to the brilliant and incomprehension to the tail-enders. Independent assignments give the student a chance to work at a pace suitable to him.

Prof. D.L. Roy at IIT Bombay in the late sixties asked each student to build an experimental set-up. For example, finding an alumina tube, designing the heating element, winding it on the tube, cementing it securely, inserting in a tin, filling it with insulation and then actually using the furnaces was highly motivating experience. These students who had enjoyed autonomy with support from the guide during their education were known to have become innovators in later life, taking on new projects and indigenizing confidently.

Learning by interaction with a computer has the advantage of learning at one’s pace. The student can have several re-runs, which are not practicable in the lecture method. A good amount of learning can be done by reading others’ experiences in published journals and by exchanging information in seminars, by discussion and by teaching.

8. Motivation and Aptitude

There was one person who did not get admission in any of the coveted branches of engineering or medicine and has to settled for an ordinary degree course. He did not take the course seriously and spent a rather dull student life. After completing his degree course, he joined a pharmaceutical distributor as stopgap arrangement. Then things changed dramatically. He discovered that he had a knack of dealing with people. The returns were proportional to his efforts. He got highly motivate, quickly learned the tricks of the trade and became highly successful.

9. Motivation and Capability

A capable person is likely to be more motivated than less capable persons. The capability should be compatible with function to be performed. There is a case of a highly skilled workman getting promoted to supervisory cadre and then proving to be a failure. The selection process therefore becomes very important. The introduction of GATE has ensured the entry of the best of the available people to the PG courses. It is hoped that this requirement would be extended to sponsored candidates as well. Some companies have also been recruiting on the basis of the GATE scores.
The performance of an individual or a group depends on three parameters: motivation, capability and opportunity. Each parameter is again a function of the other two. Investing of authority commensurate with responsibility and autonomy with support from higher levels are examples of opportunity.

10. Motivation and Communication

A scientist was asked to write a textbook for Class VII. He wrote it, but without taking into consideration the limited vocabulary of a seventh class child. No student could understand it and performance in the examinations was poor. Subsequently, the book was rewritten in consultation with language teachers who had a better idea of the student’s limits. Subsequently there was an improvement in performance.

In the industry, Process, Equipment and Quality Control Manuals are made available to the employee. All important information is displayed on boards for ready reference. Quality Circles and Plant Council Meetings provide an opportunity for communication, which is otherwise difficult through normal organizational channels.

11. Motivation and Assessment

This is about a school. Some students are very good mannered. Some are neither good nor bad. Some are rowdy-sheeters. There is a column called ‘Conduct’ in the format of the progress report. In all the reports, only one word is being used, namely, ‘satisfactory’. The assessment is the same, whether one is good or bad. There is therefore no incentive for the bad man to improve and for the good man to continue to be good. Whether it is a lack of courage on the part of the teacher which makes him not to distinguish between good and bad is not our concern. Our concern is that one motivating factor has been lost sight of. Similar is the case of confidential reports in the industry. Objective and frank assessment becomes essential to motivate acquisition of new skills and to demotivate laziness and indifference.

Assessment may also be by persons at higher as well as by those at lower level. For example, the students of a class are asked to submit a teacher evaluation sheet at the end of the course. However, only the importance due to the assessment ought to be given. For example, the workmen in a company rated an officer as Manager of the Year, because he happened to have sanctioned maximum amount of overtime allowance. Similarly, audience surveys of radio listeners or TV viewers also should be given only due regard in the light of the competence of the viewers and in the larger interests of the society.

12. Motivation and Environment

We know of a manager who began his career in one production in a large company. He was involved in the preparation of drawings, execution of civil works, ordering of equipment, erection and commissioning of the Plant. He also carried out the process design and preparation of Manufacturing Engineering Instructions and trained the supervisors and workmen of the Plant. All these activities resulted in his deep attachment to the Plant. After some years, the management felt it necessary to transfer him to another Plant. He was now to be in charge of a Plant where he was not familiar with the processes, equipment and people, in contrast to his previous Plant where he was the master of every thing. He was now called upon to control the people and operations in a Plant of which he was almost ignorant. Nevertheless, he learned soon to manage. Obviously, he could no longer adopt the instructional style. He learned to involve his subordinates in the decision-making process and evolved the participative style. His subordinates became motivated as they found their new boss amenable to suggestions. In short, the manager changed from an autocratic to a democratic style of functioning. It was probably with this motive of training the manager that the management had resorted to his transfer. This is a case where the manager is benefited by a change in the environment.

When an individual is placed in a system or environment, but the system and the individual benefit from each other. After a time, however, the rate of gain decreases. At this point, the individual should be shifted to another environment, where the gain curve will again show an upward trend. The system and the individual both need a change.

One of these authors, after completing his M.Tech, approached a professor for the temporary job of a research assistant. The professor bluntly refused saying that there should be no inbreeding. Though it was painful to get a NO, we know he was right in advising a change in environment.

It should be cautioned here that the change in environment should be compatible with aptitude.
and capability as mentioned in a previous section. Otherwise, for example, an individual may decide to retire voluntarily instead of attempting to learn in a new environment.

13. Penalizing the Meritorious

There was a bright student in the class. He was the only person to have answered all the questions correctly. The teacher appreciated him and then handed over the answer books of the remaining students of the class to him for his evaluation. The bright student had to spend his time for his teacher’s job. When a Production Manager achieved targets by making the best use of his existing team, hard-to-crack nuts and persons unwanted in other places were transferred to him and his best people were transferred to other groups. Further his workload was also increased and he was asked to report a noncooperative Senior Manager. Transferring the burden of correcting the answer books to the bright student or transferring the burden of difficult cases to the good manager are examples of actions that act as demotivators in the learning process.

14. Conclusion

Motivational aspects deserve greater attention today than previously in educational technology, in addition to information aspects. The educational plan spans over a lifetime and aims at continuous up gradation of the personality. It addresses all the individuals connected directly or indirectly with the subject. Innovative teaching techniques, objective assessment and communication, matching of functions with aptitude and capability, autonomy to the learner and support from the teacher, team work and suitably designed changes in environment are some of the factors that can act as motivating tools in the learning process.

References

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The best teacher is not the one who knows most, but the one who is most capable of reducing knowledge to that simple compound of the obvious and the wonderful which slips into the pupil’s comprehension

...H.L. Mencken
The problem of motivation of educational activity is one of the basic problems in psychology of training. Motives are an obligatory component of any activity. The educational motivation is defined as a private type of the motivation included into activity of studying, educational activity. The educational motivation is defined by a number of factors: educational system, educational institution where educational activity is carried out; organization of educational process; trainee's subject features (age, sex, intellectual development, abilities, level of claims, self-assessment) and etc. Helping reluctant learners become motivated learners is often an unstated goal of teachers to increase their students' independence and interest in learning (Sanacore, 2008). Extrinsic motivators can be initially useful to engage reluctant learners; however, it is important not to forget that the goal should be to move students towards independence and being intrinsically motivated. At a young age, children tend to react negatively to a task as 'work' when their behavior is controlled by socially imposed factors, such as rewards and rules, and they tend to react positively to a task as 'play'. The former approach which converges toward the teaching of specified subject matter, may be termed 'convergent' teaching and the latter approach which stresses open ended self-directed learning may be termed 'divergent' teaching. The convergent approach is highly structured and teacher-centered; the students are passive recipients of knowledge transmitted to them and learning achievements are measured by standardized tests. The divergent approach is flexible, student-centered, where the students are active participants in the learning process and learning achievements are assessed by a variety. Motivation can certainly affect student learning. Here are some great tips and advice to make sure you are motivating your students! This is one of the reasons why instructors in any educational institution can have a substantial impact on their students learning. They are a part of the student's intrinsic motivation environment. Motivation Techniques. Some instructors are better at employing numerous positive motivation techniques and strategies than others. As a result, the students can obtain a sense of satisfaction from excelling in a class or they may receive low grades because they are demotivated.