Teacher is the irreplaceable resource of instructional technology: A self-written experience

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Overview

The phenomenal expansion of higher education since independence has posed several problems like fall in standards, financial crunch, educated unemployment, uneven growth, student unrest, teacher burnout, inadequate infrastructure facilities and the like. These problems which higher education experiences in general also affect the teacher education in particular. It cannot be gainsaid that teachers with adequate training, competence and desirable attitude contribute their share in the activity of nation building. The quality of these teachers squarely depends on the quality of the formal training they receive before joining the profession. The quality of teacher education rests on the competence of teacher educators who are responsible for producing teachers with requisite professional competencies.

1 Skills of a Master Trainer

- Ability to give critical feedback to teaching by student teachers
- Sound knowledge of aspects, methods and techniques of teaching
- Planning for activity sessions for B.Ed. trainees
- Effective Communication
- Counselling skills
- Organising workshops /Presenting Papers
- Conducting in-service Courses
- Critical outlook to policies and programmes of education
- Employing experiential approaches
- Designing Curriculum
- Converting theoretical units into practical experiences
- Carrying out socially relevant and useful researches
- Evaluating teaching, curriculum and institutions
- Motivating for discussion, debate on latest educational reforms (Eg: Abolition of X Std. Board examination, Common School Curriculum and the Right to Education Act)
- Utilizing e-resources for teaching and training.

2 The Technology Revolution

The revolution in technology in general and Information and Communication in particular has given several advantages. They are:

- Barriers of Space, Time & Number overcome
- Knowledge explosion accelerated
- Smart classrooms – from KG to PG classes!
The ICT revolution has resulted in digitization of classrooms. We very often come across advertisements by Pre-Primary and Primary School Managements that they have ‘smart classrooms’. Due to explosion in scientific and technological knowledge, man’s dependence on machines and materials is ever on the increase. True! Technology saves time, effort and is sensitive to fast changes. Every day new systems, innovative approaches and modern techniques of teaching -learning are invented and applied. Constant monitoring, evaluation and revision pave the way for updating of the systems and strategies. No one can deny that technology alone can overcome the barriers of space, number and time in the process of learning. However, the monotony, boredom, lack of creativity, absence of human warmth, lack of opportunities for incidental and experiential learning and absence of value orientations are the limitations of solely depending on technology.

Technology applied to education was initially an appendage added to reinforce or clarify concepts in the learning situation. That is why in the early 60’s and 70’s teacher trainees were preparing low cost audio visual aids to enrich their instruction. The digitisation of teaching, mass production of educational software, networking facilities, online learning provisions have enabled integration of technology with the teaching – learning process. Thus there was a transformation from technology-based approach to technology-enabled approach; presently this has evolved into technology –integrated teaching-learning. India is a land of paradoxes. On the one side we have supercomputers, latest scientific and technological gadgets; on the other side there are still educational institutions located in remote villages with limited access to transportation.

The viewpoint of Karl Marx stands good even today; the difference is that it was division into the haves and the have-nots those days, now it is the digital divide. In India 85% of the Primary schools are multi grade schools only. Though there are several flagship programmes to improve this situation, we have a long way to go. We all know that Computerization, mechanization and even robotisation can never replace a teacher. An imaginative, resourceful and creative teacher is an asset to any institution – be it the primary level or the University level. Such a teacher is capable of developing, applying and evaluating systems, approaches and techniques to improve human learning, which is the very meaning of educational technology. With this assumption, this paper titled has been written. In the recent context of inclusiveness of education to ensure equalized opportunities for the socio-economically oppressed communities, a competent teacher can device suitable systems, innovative strategies for transaction to achieve the goal through continued monitoring.

Since the major task of a teacher in a classroom is transaction of the curriculum, we shall discuss how a resourceful teacher can devise ways and techniques for mastery learning by every student in the classroom thus achieving real inclusiveness. Individualization and pluralisation of instruction will optimise the learning process. Following is a list of methods, approaches and techniques where a teacher can serve as a rich resource of instructional technology. The entire article reflects my three - and - a half decade experience as a teacher educator.

3 Methods of Teaching

3.1 Lecture:

3.1 (a) Given are a few suggestions to make lectures effective:

1. Motivate the learners through newspaper clippings, photographs, exhibits, stories, displays, anecdotes, songs asking questions and do everything possible to kindle their curiosity.
2. Use a conversational, informal, friendly, experience - sharing presentation to draw every student towards your lecture.

3. Draw from the latest/recent developments and events related to your subject bringing a thrill and creating a natural interest.

4. Learn to teach without lecturing. Elicit everything from the learner through probing questions. This requires patience, but provides a sense of achievement to the students. This is also one way of constantly monitoring of learner attention.

5. Even to a new group of students bring forth a broad friendly smile while entering the class which is highly contagious. Spread your enthusiasm for the subject; be alert and active throughout the class.

6. Invite questions, doubts and clarifications. Encourage students to ask as many questions as possible. While a good student answers teacher’s questions a brilliant student questions teacher’s answers. Reward divergent thinking even if you do not know the answer. Let the students feel learning is a joint mission proving the meaning of the Upanishad statement “Saha na bhavatu! Saha nau bhunaktu! Saha veyam karavaa vahai!”.

7. Give a summary of the lecture by helping the learners to recall.

3.1(b) Group Methods such as Discussion, seminar, Symposium, workshop, Debate, Conference.

1. Group methods are highly socialized approaches which the teacher can apply with adolescent and adult learners.

2. As adults love to participate in discussion and exchange views, teachers should employ these methods liberally.

3. While forcing a shy student to participate in group methods is not advisable, allowing one or two students to dominate the discussion is not good. Democratic discussions maximizing participation, capitalizing on originality of the participants will make group methods successful. The overall execution of these lies in the hands of the teacher only.

4 Approaches to Teaching

4.1 Experiential Approach

A resourceful teacher will employ this approach which reconstructs the experiences of the curriculum designer, employing discovery approach, evolving theory from practical exposure and exploration. The student enjoys the thrill of sharing experience and learning through active participation. Instead of narrating meaning of every concept the teacher should allow the learner to construct his own knowledge from the information provided.

4.2 Active Learning Approach

Instead of making students passive listeners by maximum teacher talk, make your teaching participatory, observational and experiential. ‘Learning by doing’ has been stressed by educators for the past several decades. The problem with the present day teachers is that though they know a variety of approaches, they resort to uninteresting monologue - type lectures. At any level if the learners are fully involved through active and interactive approaches, learning will be a pleasant experience.

4.3 Problem / Inquiry Based Approaches

All the conservative teachers invariably have a pre-set answer to a question and want every student to come out with the same solution. If you think why we should have pre-fixed answers without allowing the students to work out their own ways of solving problems through enquiry, then you will understand the rigidity of our approaches. Our system of education sees to it that even at the primary level curiosity dies a natural death. Then what is the point in lamenting on the lack of Nobel Laureates
of Indian nationality? You should encourage divergent thinking in solving problems; may be the student will come out with a better solution than the one accepted conventionally!

4.4 Team teaching Approach

A good teacher is a good team builder and taps the resources of every one around him/her. Intellectual openness, professionalism, craving for innovation, maximizing the expertise through collective thinking in curriculum transaction will be mutually enjoyable for teachers and the learners. I have tried this approach experimentally which paid me rich dividends. While I was sewing as a resource person for an In-service Programme for biology teachers to teach the topic “Circulatory System”, I sought the help of a cardiac surgeon, a genetic expert, and a lab technician to test blood groups and give explanations. This was a rewarding experience. I have tried this technique successfully.

There are several approaches to teaching, but I have given only a few as samples.

5 Observations as a Technology of Teaching

Right from kindergarten classes up to the university level observation as a technique plays a key role. Direct, active observation by learners helps them learn easily what two hours of lecture on a topic would do. Learner centred techniques are very often theoretically discussed by teachers with no conviction about the advantages of these. Subjects of science and social sciences offer plenty of opportunities for observation. I take pity on the teachers who try to teach the trends in physical development of human beings for hours together. I have successfully tried observation as a technique to help learners understand this unit by bringing children in various stages of development and asking the B.Ed. trainees to observe (based on the guidelines) and record their observation followed by a discussion. It is a sad state of affairs that when several hours are spent lecturing on various methods, approaches and techniques of teaching, not even one is demonstrated or applied during the lecture. Even integrating technology with education is done without any integration! Unless this trend changes, our discussions in conferences and seminars also will be only theoretical and hence dry.

6 Conclusion

There is no point in talking at length about non-conventional approaches to teaching at various levels such as role play, demonstration, dramatization, brainstorming, buzz, case analysis, simulation, peer tutoring, modular approaches, e-learning, video-conferencing, tele-conferencing, mobile learning, mastery learning, project methods, experiential approaches, etc.; take earnest efforts to demonstrate every approach or technique in order that learners will be motivated to employ them in their own teaching also. There is no limit either to human imagination or resources; it is only a positive attitude that is required to capitalize on these so as to maximize the efficiency of education system. Unlimited interest and inclination to try various strategies to make every learner understand the concepts are required for teachers to be effective.

A professional stock - taking by every teachers in terms of their own competencies - what already they have, what should be developed, what aspects need constant updating - will enhance the existing standards of instruction in particular. Instructional Technology is a fertile area to be explored by teachers and researchers constantly in order to bring the best from each component of the education systems. Let us not underestimate or under- utilize unlimited resources of a teacher.

Let us start doing professional self-auditing and come out with brilliant methods, approaches and techniques. In our hands the future of India, why India, the whole world lies!
7 About the Author

Prof. Dr. P. PREMA was Former Head, Department of Education, Former Dean, Faculty of Education, Alagappa University, Karaikudi. She was a Syndicate Member of Alagappa University and now a Member, Planning Board of Bharathidasan University, Tiruchirappalli – nominated by the Chancellor of Govt. of Tamil Nadu, India. She had held the position of Dean, Faculty of Education (08.10.2007 to 26.10.2010) & was Chairperson, School of Education (12.03.2008 till retirement). Dr.P.Prema was Member, Standing Council on Academic Affairs of Alagappa and Bharathidasan Universities. She served as First coordinator for Centre for Women Studies, Alagappa University as well as a Convenor / Member in Committees – Research Advisory Committee, NAAC Internal Coordinating Committee, Convocation Committee, Discipline Committee, Women Harassment (Prevention) Cell, Women Empowerment Cell, Examination Reform, Building Committee, Distance Education Committee. Currently, She is Senate Member, Alagappa University.