

Technology in Education – An Effective Aid for Classroom Management

Rajashekar

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What Technology in Education is *not*:

It would be advisable to begin looking at what Technology in Education is not in order to arrive at a comprehensive definition of what it is.

Technology in Education is not

- dehumanising the teaching – learning process
- getting rid of text books
- expelling the teachers from the system
- suggesting a shortcut for teachers / learners

Defining Technology in Education

Then what is technology in education? It is obviously what the ones above are not. However I propose not to attempt any definition of technology in education but to help the readers realise the same in the course of their journeying through the rest of the paper.

Any invention is an offshoot of necessity and technology in education has not been an exception. The probable factors that could have necessitated its application in teaching and training are:

Teaching	Training
<ul style="list-style-type: none">• large number of students• multilevel• multi grade situations• limitation of resources• non-availability of expert teachers• non-availability of text books	<ul style="list-style-type: none">• large teacher population• changing needs / demands• accessibility to information• limitation of the text books• changing roles of teachers• increased cost & waste of time

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Technological development is an extension of man's power over nature. As Marshal McLuhan puts it, ".....clothing extends his skin; an automobile extends his legs; the telephone extends his voice and hearing; and writing extends his memory and now computers extend man's central nervous system."- Singh, YK et al. 2008. *Educational Technology: Teaching Learning*.

Technopast to Technopresent

The emphatic assertion made by Jacques Torfs, a UNESCO expert in his address at the Conference on educational satellites organised at Nice in 1971 was not a utopian idea but a scientific reality –

“If the ten to thirty percent of the world's population living in remote, isolated areas are not to be sacrificed, deprived of their right to education and allowed to act as a brake on progress in every developing country, then only educational telecommunication satellites can provide the solution”.

<i>TECHNOPAST to TECHNOPRESENT in Education</i>
<ul style="list-style-type: none">• Satellite Instructional Television Experiment [SITE] by using the American Applications Technology Satellite – F – September 18, 1969.• Beginning of educational TV – on August 01, 1975.• AIR broadcasts for school students for more than 22 years.• Satellite based education TV Programmes in Gulbarga.• Class Project [CSS] and IT School Project.• Launch of film-based modules by DPEP.• Keli Kali Radio Project with the collaboration of DSERT / DPEP / AIR.• Launch of EDUSAT satellite by ISRO on 20 November 2004 and software support by several institutes like RIESI in the form of video lessons.• Gyan Darshan [GD] started on 26 January 2000 by MHRD [GOI] & Prasar Bharthi with IGNOU as the nodal agency.• GD-1, GD-2, GD-3 [Eklavya] & GD-4 [Vyas] on 26 January 2004.• DD Bharathi on Primary Band telecasting

- IGNOU's programmes in April 2005.
- Teleconference [live interaction] – one – way video & two-way audio and two-way video & two-way audio.
 - Computer Assisted Instruction [CAI] & Computer Assisted Language learning [CALL].
 - ICT in Education.
 - Virtual Classrooms.

Technology helps in creating and organizing learning environment which includes formulation of instructional objectives, curriculum planning and designing, its transactional strategies and evaluating of pupil's learning and achievement. It also includes management of learning and overall education.

Focus on the Learner

The most important element in the teaching-learning process is the learner. The technology that works best is determined on the basis of what is appropriate to the learner and not on the basis of what is highly sophisticated. The host of technology programmes that have liaised with education down the line have been presented in the table.

Some real objects and events are too big for the classroom [e.g., solar system]; or too slow [e.g., the sequence of a bud opening into a flower]; or too inaccessible [e.g., defusing a bomb]. Such limitations can be successfully overcome by the appropriate use of visual media where the reality is controlled by making things smaller or bigger, slower or faster. Presenting the original speech of a leader using a recorded version is bound to create a more scintillating experience than students' reading it for themselves.

The learners are almost transported back in time with their learning-cum-retention capacities addressed simultaneously effectively. The exploratory component of a child's competency is also addressed by the use of technology as it opens up many channels of expression for the child.

Misconceptions Relating to the Use of Technology among the Teachers

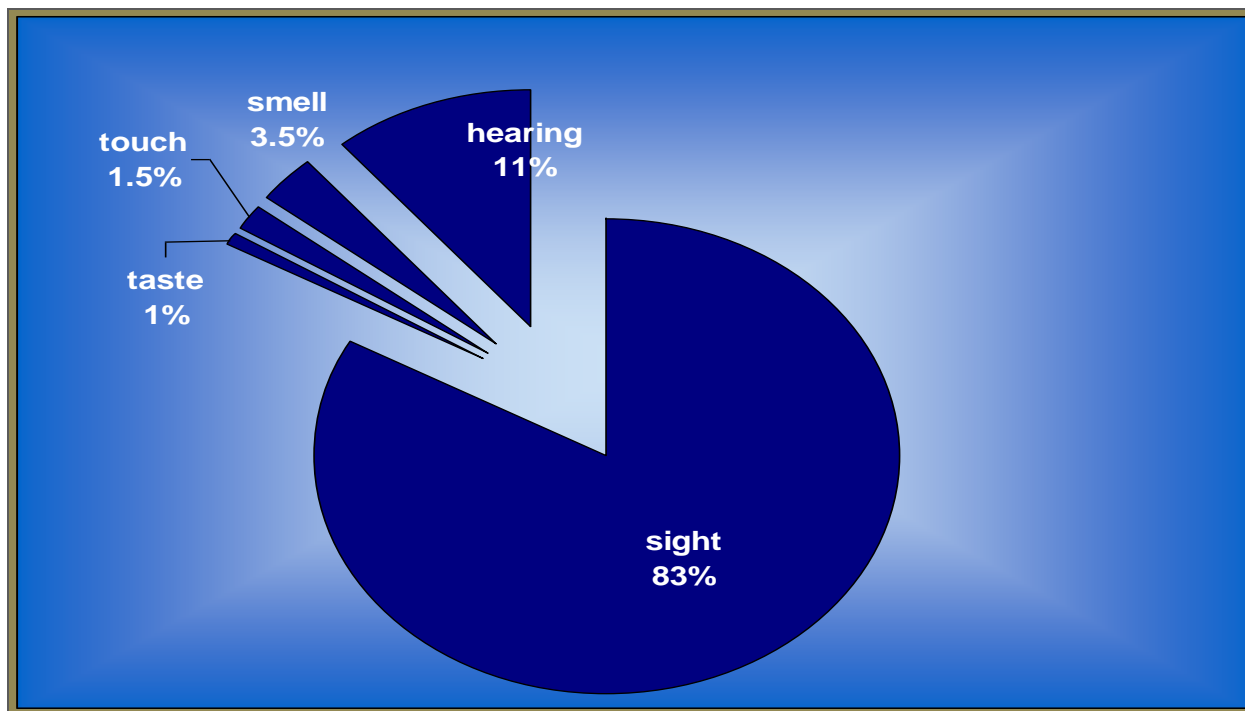
Some of the misconceptions regarding the use of technology among the teachers and the probable answers are as below:

<i>It simply can't work...</i>	<i>...it could if you tried.</i>
<ul style="list-style-type: none"> • very expensive and our schools can't afford. • means teaching plus, i.e., more burden on me. 	<ul style="list-style-type: none"> • reasonable and rather cheaper down the line. • more interesting, if used with adequate planning & preparation.

<ul style="list-style-type: none"> • not interesting for the children. • not techno-savvy, so feel outdated. • human element missing, relations affected. • evaluation system to be changed, a long process. 	<ul style="list-style-type: none"> • reduces the use of chalk and talk and less strenuous • need not be, not so much the technology part of it but the applicative mind. • not really, roles continue to be what they are, with change only in the mode of interaction. • better to change the shoes than the feet.
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Role of Five Senses

Research by the Harvard Business School has indicated that information received by the brain comes through our five senses in the following proportion



The channel of information in a traditional classroom (i.e., basically the teacher’s voice) is only about one-tenth of the total perception input. Little wonder then that the teacher strains his throat muscles throughout the year (sometimes resulting in Teacher’s throat!) but fails to receive the boomerang in the form of maximum perception from the children.

Just as the use of a catalyst does not really alter the reactants or products but only serves to speed up the rate of reaction, the use of technology enhances the efficiency of teaching – learning process without much affecting the roles of teacher and learner but by redefining the same.

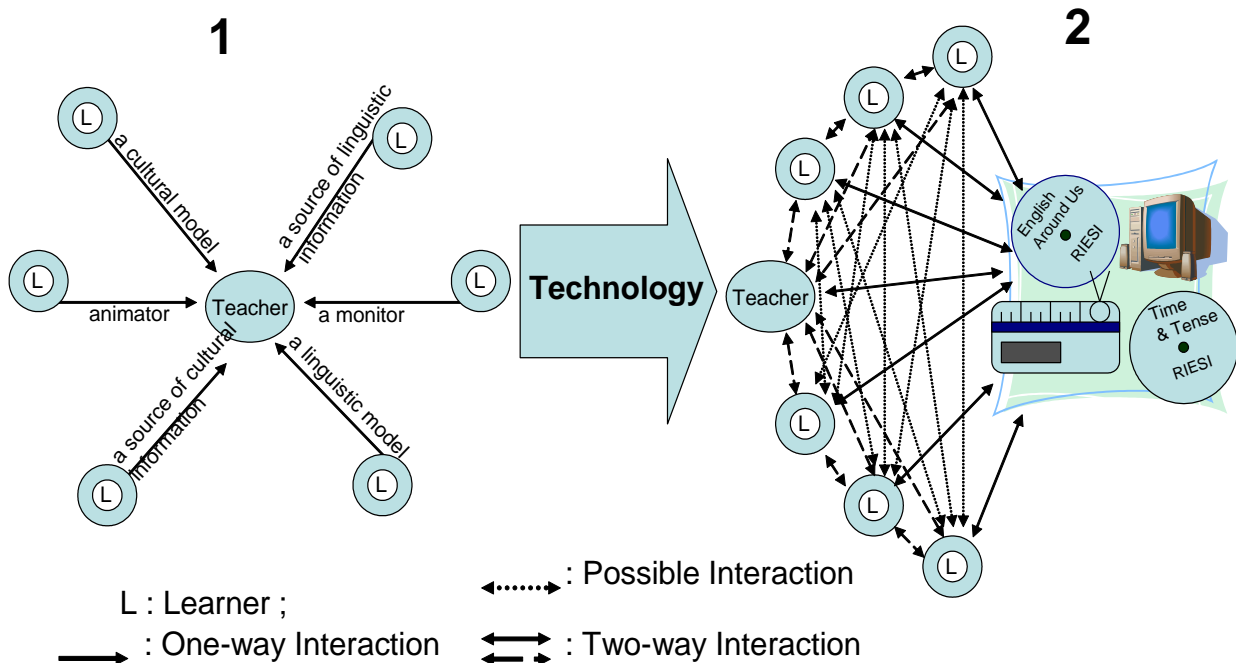
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The radical change technology can bring in the group dynamics of the teacher-class relationship looks somewhat like this.

Group Dynamics of Technology-aided class room



Teachers' Role: Redefined

It is by no means indicated in picture 2 that the teacher is pushed to the periphery by the intervention of technology but

- the teacher is spared from owning the responsibility for too many things i.e., his/her accountability is reduced.
- a meaningful interaction among the learners which is otherwise impossible in a traditional class is also achieved.
- dependence on text book which is, more often than not, an isolated, shut off, individual medium for 83% of information input is reduced to some extent by providing other channels for the information flow.

Technology is Relevant

Since technology can address issues like large classes, single teacher schools, non-availability of text books etc., we wouldn't be ambitious if we looked up to it for help regarding the learner in question- the slow learner. The progress of technology has definitely been by leaps & bounds towards individualised instruction for insured learning. A variety of personalized instruction techniques came up in 1950's targeting individual learner. Programmed learning is one such educational innovation, an auto instructional device where the learner takes himself / herself through each and every step.

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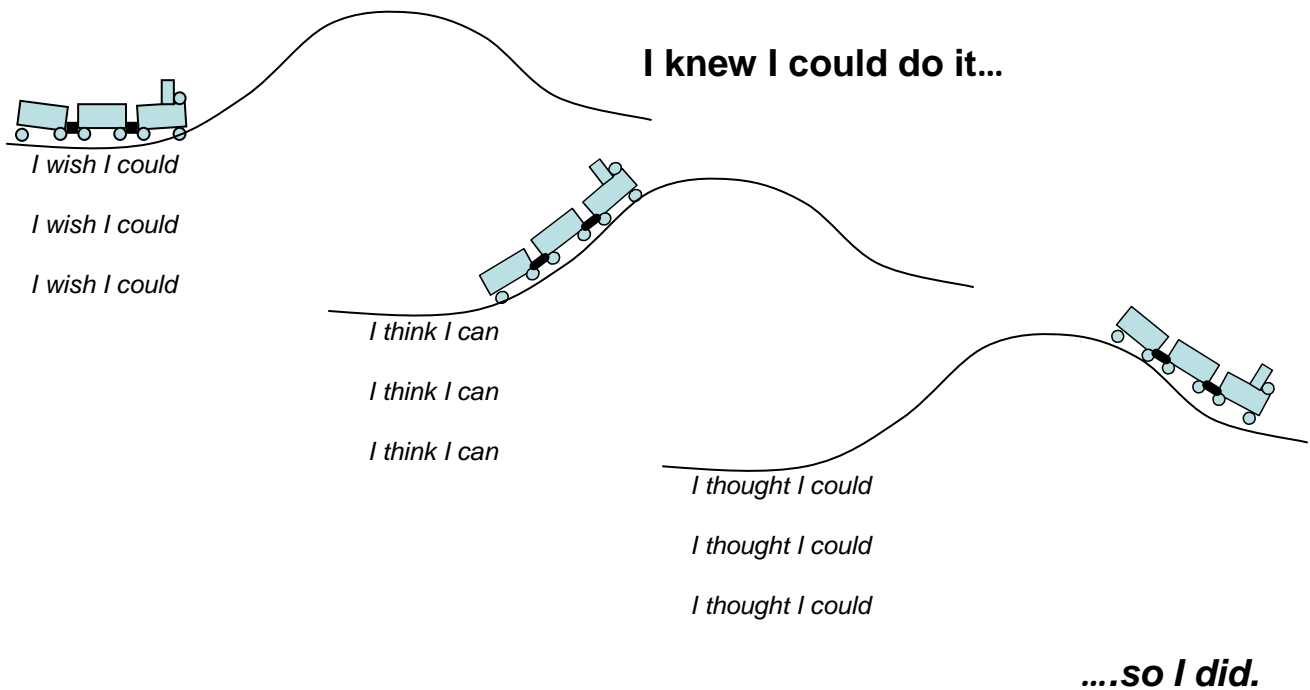
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Small sized steps, overt responding, immediate feedback, error-free learning, self-paced learning and empirical testing are some of the features built into Programmed Learning. Several self-learning CDs available in the market have the feedback mechanism built into the activities in lessons followed by an optional learning component the learner could choose to go through. The learner can go back on the same activity several times to ensure sufficient learning before attempting the next activity. This promotes a self-initiated, self-monitored and self-paced learning addressing individual differences and achieving learner motivation. Slow learners definitely stand to gain from such learning programmes.

Language Learning and Technology

Students know that language lives in sound and colour, because they experience it every day outside the classroom. This is the challenge the modern language teacher faces.

The initial apprehensions of teachers while using technology in education can be overcome by using more of it just as the fear of crossing the ropeway can be overcome only by crossing it many times. The confidence or the “I knew I could do it” attitude that the teacher develops by being a part of such system is similar to the experience of the little train climbing a hill.



Educational Technology

If your way through the paper has helped you zero in on any definition of Technology in Education, it might look somewhat like this:

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Educational technology is the application of procedures and techniques for the systematic design of a learning experience. It is also developing a source of education which uses a host of methods, techniques and resources that assist the teachers and support the students in their effective learning.

The symbiotic relation between technology and education has made the teaching-learning process more efficient & effective. The distance between an expert teacher and a needy learner has been successfully conquered and a ‘technological proximity’ has been established between them.

It is heartening to know we have begun to reap the benefits of this relation between technology & education. The teething problems can always be overcome if the attitude towards using it is positive. Learner continues to be the nucleus of the teaching-learning process; teacher & technology operating from different orbits, each influencing the other and in turn influencing the learner, the goal being “learning”.

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Rajashekar, M.A., PGDELT
Assistant Professor
Department of English
University College of Arts
Tumkur University
Tumkur-572 103
Karnataka, India
rshekar.gummaraju@gmail.com