4

Transformations: teaching-learning Process in the 21st Century

Sapna Yadav*

Abstract

The purpose of this paper is to examine the effectiveness of latest techniques in teaching-learning process. We think of the effective teachers we have had over the years with a sense of recognition, but those who have touched our humanity we remember with a deep sense of gratitude. Basically, teaching must include two major components sending and receiving information. Teaching in classroom using chalk and talk is "one way flow" of information. Teachers often continuously talk for an hour without knowing students response and feedback. The material presented in class is only based on lecturer notes and textbooks; there is insufficient interaction with students in classroom. Moreover, emphasis has been given on theory without any practical and real life time situations. So, any communication methods that resolve the purpose without destroying the objective could be considered as innovative methods of teaching. The use of innovative methods in educational institutions has the potential not only to improve education, but also to empower people, strengthen governance and galvanise the effort to achieve the human development goal for the country.

Confucius has correctly phrased in this regard:

I hear and I forgot.

I see and I believe.

I do and I understand.

Introduction

Education is a light that shows mankind the right direction to surge. If education fails to inculcate self-discipline and commitment to achieve in the minds of student, it is not their fault. We have to convert education into a sport and learning process has to generate

* *Assistant Professor,* Delhi Teachers' Training College, Najafgarh, New Delhi

interest in the students and motivate them to stay back in the institution than to run away from it. Education should become a fun and thrill to them rather than burden and boredom. It is an integral part of their growth and helps them become good citizens.

Education is an engine for the growth and progress of any society. It not only imparts knowledge, skills and inculcates values, but is also responsible for building human capital which breeds, drives and sets technological innovation and economic growth. In today's era, information and knowledge stand out as very important and critical input for growth and survival. Rather than, looking at education simply as a means of achieving social upliftment, the society must view education also as an engine of advancement in an information era propelled by its wheels of knowledge and research leading to development.

The general statement is that the reasons behind the innovative teaching and learning methods and approach are the failures and weaknesses of the traditional methods. Traditional methods are not enough to promote adequate level and quality of student learning whereas technology has the potential to remove barriers for students and educators all over the world. Powerful software and the internet are changing our access to knowledge. Innovative ways to teach and learn are redefining the classroom experience and there are new expectations for students, beyond basic skills, they need proficiency in collaboration, communication and information management – all 21st century skills and access to the learning tools that put these skills within reach.

Today, e-learning has become the key to a profound revolution in learning. This is because e-learning can offer what is possibly the most flexible and effective learning approach. With this technique, students can study at their own pace, anytime and anywhere. It enhances students' learning experience by allowing a better interactive communication with instructors. This is enabled by providing a mixture of synchronous and asynchronous learning activities administered through a well-designed environment. High quality learning content, presented with good teaching methodologies and instructional models can render a positive impact on the students' learning outcome.

Recent Movements in Teaching and Learning

Increasingly, we are seeing the following trends, directions and movements:

- 'Research' and 'Teaching' are perceived as mutually enhancing each other rather than antithetical.
- Course time is devoted to discovery-based (inquiry-based, resource-based, project-based and active) learning over traditional lecture modes of transmitting knowledge.
- Teaching emphasis has moved away from memorising facts towards finding, evaluating and using information.

- Instructors are realising what they teach is not the same as what students learn and re-scoping the curriculum accordingly ('teach less, learn more').
- New teaching and learning styles incorporate collaborative work in diverse teams or groups.
- Course content is interdisciplinary, interdepartmental and team vork.
- Course content is publicly accessible and shared beyond the members of an individual course.
- Teaching and learning extend beyond the classroom, into the campus and community.
- The instructor is perceived as a partner in a learning community (with librarians, with other academic support partners, and with undergraduates themselves) rather than as a sole entrepreneur.
- The audience for student work is expanding from the individual instructor to communities of discourse that include peer feedback and exchange.
- Assessment is multi-level and complex incorporating both formative and summative types and involving reciprocal evaluation of how well teachers teach and how well students learn.
- Today's students have grown up with technology as the air they breathe, are used to being wired 24/7, are comfortable multi-tasking in multi-media and bring very different expectations to the classroom as a result.
- Today's employers prize transf-rable skills (e.g. problem-solving, creativity, interdisciplinary teamwork) over encyclopaedic knowledge.

Innovative Tools

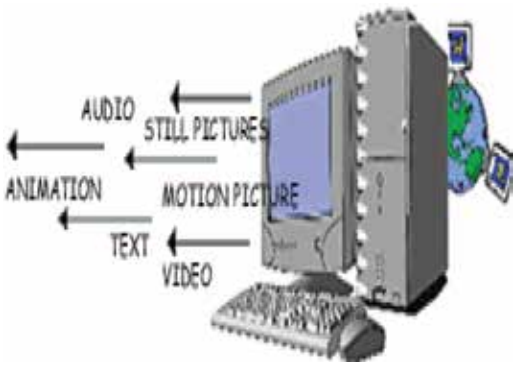
Some of the Innovative tools are as follows:

(a) Multimedia Learning Process

Multimedia, is the combination of various digital media types such as text, images, audio, video, animation and motion picture into an integrated multi-sensory interactive application or presentation to convey information to an audience. Traditional educational approaches have resulted in a mismatch between what is taught to the students and what the industry needs. As such, many institutions are moving towards problem-based learning as a solution to producing graduates who are creative; think critically and analytically, to solve problems. In this paper, we focus on using multimedia technology as an innovative teaching and learning strategy in a problem-based learning environment by giving the students a multimedia project to train them in this skill set.

(b) Other Innovative Tools Suggested

The researchers suggest some of the methods can be applied by the modern teachers. Researchers feel that the core objective of teaching



should never be deviated by the use of an innovative method. The following suggested methods are an extension to the traditional methods of teaching.

(i) *Mnemonics Words Approach*

Here the teacher is not supposed to talk on a particular concept for a long time. To make it clear to the students, she/he can just go on saying mnemonics or its associated meaning in words. Here, teacher says only words instead of sentence and once they come to a basic understanding of the meaning of a particular concept then the teacher will explain in sentences. For example in teaching language courses this technique can be used as an effective medium by the teacher to develop word power. The advantages of this method are:

- Encourages use of dictionary
- Word power increases
- Teacher also gets to know many words pertaining to a particular concept.

(ii) *Brain Storming*

The brainstorming method consists of processing students' spontaneous ideas about a pre-set theme, or problem which has been determined without qualitative comments from the trainer. The most unusual views can be included, in order to provoke diverse and original problem-solving ideas.

The following comments deal with the conceptual rules of brainstorming:

- The thoughts expressed should be creative (not self-critical)
- Neither criticisms about the ideas of others nor explications of one's own ideas should be admitted (all ideas should be registered, including repetitions).
- Quantity takes preference over quality – the more ideas expressed the better.
- Each student should be encouraged to express her or his ideas freely and spontaneously.

(iii) *Role Playing – Simulation*

This is a game where social conflicts and group interest decision-making are simulated. The subject/conflict and the roles/situations are pre-set and the game's outcome is left open. During the role play simulation games, students have to take decisions based on real or hypothetical model situations, defined by a set of rules that govern their fictitious reality. This strategy is especially valid for social learning centered around not only knowledge acquirement but also on the development of skills and attitudes that can enable students to make the step from theory to practice through real life application of the

simulated situations. The following procedures are to be followed for role playing:

- Presentation of the content and rules of the simulation game.
- Allocation of the roles to be assumed by each group.
- Presentation of the initial situation, written description of the characteristics of the groups participating in the game and, if necessary the allocation of roles within each group.
- The game commences applying the assigned roles.

(iv) *Group Work*

Focussed as it is on both participants and tasks, group work within a small group framework can be an ideal way of including a social element in learning themes. By means of an orientation session involving all the students, a large group can be divided into several small ones. This is known as the "closed stage" and includes the designing of a general plan, the identification of objectives and sub-themes, as well as the creation of work groups. Once the authentic group work (known as the "open stage") is completed and events data and contextual associations have been analysed, another full session, or "closed stage" can be implemented, in which areas such as group information, comparison, evaluation and summary of partial results are discussed prior to the formulation of a final result.

Preparation for group work

Full session for the preparation of group work (closed stage)

- Group work tasks should be explained, using precise terms backed up by any combination of visual and memorisation aids – such as a whiteboard or flipchart or group work hand-outs.
- The way that groups are to be formed should be explained.
- What is expected in the full group presentation of results session should be discussed.
- The length of the group work process and where it is to be carried out should be indicated.
- Any unclear points should be cleared up by means of a question and answer session.
- Group work (open stage)
- The participants carry out tasks while the moderator ensures that the group does not lose sight of the objective. If necessary the moderator can offer encouragement and additional information as well as suggesting ideas.
- If necessary, the moderator can encourage groups to make use of available resources, such as markers, transparencies, cards, etc.

(v) *Games*

The use of games technology in education is not a new phenomenon. Even back in the days of 286 processors, PCs were used in some schools along with (what looks like

now) primitive simulation software to teach a range of different skills and techniques – from basic programming using Logo (the turtle style car with a pen at the back that could be used to draw on the floor, always a good way of attracting the attention of school kids) up to quite sophisticated replications of physical problems, such as working out the trajectory of a missile to blow up an enemies' tank. So why are games not more widely used in education? The use of a game to aid learning and improve achievement is suggested because traditional methods of engagement are currently failing on some levels.

(vi) *Z to A Approach*

This approach attempts to explain the application part of a particular concept first:

- It makes concept clear.
- Students develop interest to know exactly the concept.
- Creates long lasting memory of a concept.

Conclusion

In summary an innovative teaching and learning method is not panacea. It cannot replace traditional methods in education. Across the world, information technology is dramatically altering the way students', faculty and staff learn and work. Internet-ready phones, handheld computers, digital cameras and MP3 players are revolutionising the college life. As the demand for technology continues to rise, colleges and universities are moving all sorts of student services, from laundry monitoring to snack delivery online. Technology is also changing the classroom experience. For instance, the room is wired with cameras for photographing whiteboards, so students can receive the images as digital files. In addition, tablet PCs, compact computers that allow you to write notes directly onto the screen with a special pen, replace the archaic projector. The tablet technology allows professors to make notes on charts and spread sheets and sends them directly to their students' PCs and teacher gets feedback from each student.

From the above, we can make out that the Information and Communication technology has made many innovations in the field of teaching and also made a drastic change from the old paradigm of teaching and learning. In the new paradigm of learning, the role of student is more important than teachers. The concept of paperless and penless classroom is emerging as an alternative to the old teaching learning method. Now a days there is democratisation of knowledge and the role of the teacher is changing to that of facilitator. We need to have interactive teaching and this changing role of education is inevitable with the introduction of multimedia technology and the spawning of a technologically-savvy generation of youths.

REFERENCES

Agnew, P.W., A.S. Kellerman and J. Meyer. 1996. *Multimedia in the Classroom*. Allyn and Bacon, Boston.

Boud, D. and G. Feletti. 1999. *The Challenge of Problem-based Learning*. (2nd Ed.), Kogan Page, London.

Hofstetter, F.T. 1995. *Multimedia Literacy*. McGraw-Hill, New York.

Jonassen, D.H., K.L. Peck and B.G. Wilson. 1999. *Learning with Technology: A Constructivist Perspective*. Merrill/Prentice Hall, New Jersey.

Retrieved from http://math.arizona.edu/~atp-mena/.../Damodaran_Innovative_Methods.ppt