Impact of Technology on Student's Way of Perceiving Information

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ABSTRACT

There are several reasons to justify to study technology and more than ever, today, it does makes sense to ponder over an imperative question i.e. how or whether technology affects the student learning perception of information in classrooms. Technology has the potential to engage students in meaningful learning, where students actively process and interpret the information through use of different technological modes such as e-journals, e-books, online libraries. In order to improve the prevailing teaching and learning process it is necessary to utilize the maximum technology based learning. Thus, keeping present scenario in mind, the current study was undertaken to find out how students can improve their academic pursuits with latest information technology materials and usage of advanced teaching-learning materials.

Keywords: Information technology, students, teaching-learning

In academia arises a question, albeit perhaps not as mind-boggling or thought provoking, generates considerable debate. That is, what adds more to the learning process, the message or the medium? Perhaps the answer lies in which school of thought regarding teaching and learning the philosopher adheres to – objectivist or constructionist. Yet no matter one's own opinion, it is unlikely that she will be able to convince another of opposite mind of the wisdom of her particular position. However, if pressed, each party might reluctantly acknowledge that some modicum of merit could legitimately be attributed to the contrary argument. Yet the vigorous debate continues.

Formal education has long been dominated by the traditional lecture, where the learned few impart wisdom to the passive masses through well-conceived but oftentimes long and dry oratories. Lowerison *et al.* (2012) notes that faculty have tended to rely on lectures and readings from texts that culminate with a final exam to measure achievement. As a result, the student may essentially be a passive recipient of information, raising concerns that the focus is more on rote learning whereby students only memorize facts in preparation for tests.

Fortunately (most would argue) recent advances in academia have exposed the weaknesses of such a static approach. Teaching, it seems, may not always be equivalent to learning. Current thought suggests that students must be active participants in their own education in order for knowledge "to take." If the objective or goal of the educational process is the development higher-order learning skills, then the student must be engaged rather than recumbent.

In the last fifteen years or so, the use of computer-based presentation graphics or "non-interactive educational technology," such as PowerPoint presentations, has gained widespread acceptance in the university setting. Craig and Amernic (2009) reported that more than 400 million copies of PowerPoint were in circulation in 2002, a number that has certainly continued to grow since then. Classrooms across the nation are commonly becoming "wired," and today's textbooks are nearly always packaged with a plethora of computerized

teaching supplements. While the traditional "chalk and talk" continues to be an academic mainstay, innovative educators continuously seek ways to enhance the classroom experience in an attempt to facilitate student learning.

Given that not all students learn in the same fashion, many professors proactively adopt new teaching methodologies in an attempt to help more students gain a better understanding of the substantive material being taught in a particular class. Technology has the potential to transform the learning environment from one that is passive to one that is more active and subject to the control of the learner. Now-a-days, the work of learning is being changed slowly from traditional methods (Teacher-oriented methods) to modern methods (Student-oriented methods). The student-oriented instruction method is used on the intensive participation of students on the Teaching-Learning program supported by latest available Information Technology. This paper deals with impact of information technology over the student's way of perceiving information during the process of teaching.

Prior Research

The use of technology in an educational setting has sparked considerable interest on the part of researchers. A number of studies have focused on the pluses and minuses of technology use. While many of the claimed advantages are perceptual in nature, empirical findings regarding the existence of a positive or negative technology impact on student learning have been mixed.

Results from different lines of works are summarized below. According to Szabo and Hastings (2009), the use of presentation graphics such as PowerPoint increases student interest in the subject matter, making the classroom experience more enjoyable. Power Point is perceived as adding structure to a presentation, aiding in the order and pacing of a lecture (Hlynka and Mason, 2008). This enables the lecturer to present clear summaries (Lowry, 2013), which can impact how much students learn from the presentation (Miller and McCown, 1996), as well as their retention (Garner, 2012). Thus indicating that a lot of findings have been attributed to technology's claimed ability to generate positive attitudes and enhanced self efficacy in students.

Some researchers have been hesitant to jump on the technology bandwagon, with most of the criticism relating to how technology is being used in the classroom. Critics claim that form has been elevated over content (Tufte, 2009), and that technology has replaced "clear thought with unnecessary animations, serious ideas with ten-word bullet points, substance with tacky, confusing style" (Coursey, 2011). Further, use of technology has been denounced for its detrimental impact on "dialogue, interaction and thoughtful consideration of ideas," (Cyphert, 2012) and for its impact on the creation of long and annoying presentations. Perhaps of more concern, technology is used by some to accomplish a one-directional transmission of knowledge, enabling students to once again be passive and avoid participating in the learning process. Technology, it seems, can serve as a crutch for the instructor. Perhaps technology has become the new, intangible version of the podium which to hide behind. It's only if technology is used as a means to provoke critical thought on the part of students, then the learning process wins i.e. it would help the students perceive effective information.

Impact of Technology on the Teaching Learning Programme

"Proper knowledge leads to proper action and proper action leads to Progress, Prosperity, Peace and unlimited Joy"

—Vivekananda.

Education is a tool to develop humankind in so many ways. Therefore, education is being given to students by different methods. Among them, the most important one are teacher-oriented instruction and student-oriented instruction. The aim of any method is to make the learning process most effective. Teacher can use computers to manage the whole institutional process from lesson plan to evaluation of students' performances. The computer is the only tool in the hands of both students and teachers. The effective use of this tool in the teaching learning process depends on the skill and interest of both teacher and student at various instances of learning. The result of computer based instruction in the teaching learning process is described as the result of collaboration between the teacher, the student, the designed technology and technology

oriented instruction. Students can use computers and its related materials for different purposes in their studies.

A person named 'Teacher' cannot be an ordinary person. His/her activity gestures, attitudes, values, habits are observed, followed assessed and more or less copied by in numerable person. 'What a nation will become is by and large decided by the kind of teacher the nation have'. Teacher education programmes are not sheer part of education system and like all other education programmes. It is like training of architects who are going to lay foundation of nation building. A teacher cannot be mere transformer of knowledge. A teacher is someone acknowledged as a guide or helper in the process of learning. Although academics are emphasized but a teacher's duty includes inst in spirituality, civics, community roles, life skills, value inculcation, craftsmanship and vocational guidance. In ancient Indian society social training, value and moral education were family responsibility, these roles too are imposed on schools now. In modern schools and most contemporary society the teacher is defined as a specialized profession as are other professions.

The internet is a source of information like a vast library which holds bundles of information in the form of texts, graphics, sound, video etc. The internet also provides searching facilities for exploring or seeking information from all over the world. Integrating technology when done effectively, technology has a positive impart on student learning. It can increase student motivation for learning, improving communication of learning, goals, facilitate higher order thinking skills, build valuable skills that students will use in college and in the work place and expand students understanding from novice to mastery. Computer technology automates previously laborious process, allowing students to focus developing higher order thinking skills. It also makes a number of information resources available to students, often making for a more circuitous path to learning.

Education Technology aims to improve the quality of human learning and helps in Communication the nature of the content and also in reaching the masses. There are two aspects of technology namely hardware and software. Both of this technology has to be properly planned according to the subject to be taught and the group of learners in order in order to make the communication effective.

- ❒ Education Technology plays a vital role in teaching and learning. It is a system of materials-Communication system and psychology of learning.

- ❒ Education Technology comprises the process and product dimensions of the interaction of teacher-learner.

- ❒ Computer and technology have significant part of quality improvement in teaching and learning.

- ❒ Technology has become an essential part of Education at all levels. The information and communication technology have opened new avenues of information and education with additional dimension of interactively. The new technology can transform education to meet the needs of mass education as well as individualization of education.

- ❒ Internet, E-mail, fax and video conference have helped to overcome the barriers of space and time and opened new opportunities for learning.

Education is a continuous, complex, dynamic and life long process. Now-a-days technology occupies the prominent place in teaching learning processes. The purpose of Education Technology is to improve the effectiveness of teaching-learning process in formal or informal setting and to utilize scientific principle. Education Technology is the development, application and evaluation of systems, techniques and teaching aids to improve the process of human learning. It will help the teachers to teach as well as the learners to learn well.

Learning Situations: Today the learner is exposed to many experiments:

- ❒ Student
- ❒ Teaching
- ❒ Electronic gadgets
- ❒ Observation
- ❒ Life Experience
- ❒ Reading Materials
- ❒ Text Books
- ❒ Discussion
- ❒ Advertisement

In this situation what shall be the role of teacher? We are living in a world of explosion where science and technology have great impact on our lives. Globalization is the outcome of this knowledge explosion.

The information and technology combined with audio-visual aids have come into the world as information and communication technology. Anyone can access any material from any part of the world through websites. Information and Technology has become, with a very short time, one of the basic building blocks of modern society. Organization, exports and practitioners in the education sector are increasingly recognizing the importance of ICT in supporting educational improvement and reform. Technology plays a vital role in the teaching learning process.

The Role of Education Technology is as follow

❏ Converts behavioral objectives into the learning conditional in the context of educational objectives.

❏ Analysis the characteristics of the learners.

❏ Organizes the contents.

❏ Formats the performance of the people with reference to the achievement of educational objectives.

❏ To provide reinforcement and feedback in order to modify the behaviors of the pupils.

❏ It has maximized the learning facilities.

❏ It develops the maximum cognitive, affective and psychomotor aspects of the pupils.

❏ It brings decided improvement in leaching learning process by making it effective.

Objectives of Technology

❏ To increase the techno logy literacy of teachers.

❏ To help the teachers a 21st century learning environment for students.

❏ To provide teachers resources and training to integrate technology into their teaching

❏ To develop best practices for use of teaching in the classroom.

❏ To analyze the complex process of teaching into essential technology-based teaching skills.

❏ To understand the technology teaching skill and Utilize technology skills effectively involvement of the students.

Internet, E-mail, fax and video conference have helped to overcome the barriers of space and time and opened new opportunities for learning. For example the use of internet application in the field of education, the standard of education really gone up now. One of the important reasons for this the applications of internal in education? A few important and latest applications of internet in the field of education are:

❏ Internet libraries or electronic libraries

❏ E-Journals

❏ E-Books

❏ Online Testing Procedures

❏ Online Research Surveys

❏ E-Learning or Web Based Learning

❏ Virtual Universities

The need for using new innovation in teaching and learning is essential for preparing future citizens for facing the changing society. By using the new technologies empower teachers and learners to make complex decisions, to identify and solve problems, and to connect theory, practice and students outcomes. It gives a quality education to the learners. In globalization the emerging global society is driven by technology and communication. This 'Global Society' in shaping the student as 'Global Citizens and intelligent persons with multi-skills and knowledge to apply to the competitive and information base society.

Benefits of Using Technology

❏ Saves times. Develops oral and written communication and social interaction skills.

❏ Allows for interactions with students outside their class, school, city, state and even country.

❏ Share ideas.

❏ Increases student motivation.

❏ Encourages different perspectives views.

❏ Develops higher level, critical thinking skills and problem solving approaches.

❏ Encourages student responsibility for learning.

❐ Establishes a sense of learning community.

❐ Creates a more positive attitude about learning.

❐ Enhances self-management skills.

❐ Promotes innovation in leaching & classroom techniques.

There are many technologies like Teleconference, Tele teaching, ICT, IT etc. can be integrated in teaching learning process and enhance and strengthen the process of learning.

Mobile Phone in Education

The idea of cell phones as mobile learning device is currently more popular since more people own cell phones than PCs, the potential for m-learning with cell phones is on the rise. Developments in chip design and the increased processing power turned the handheld mobile phones more portable and affordable than before with technological advances and steadily decreasing cost, cell phone are emerging as a viable option for mobile education.

ICT Help Improve the Quality of Education

Improving the quality of professional education and training is critical issue, particularly at a time of educational expansion. ICTs can change the quality of professional education in several ways by increasing learner's motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teacher training. ITCs are also transformational tools which, when used appropriately, can promote the shift to a learner centered environment.

Motivating to Learn

More so than any other type of ITC, networked computers with internet connectivity can increase learner motivation as it combines the media richness and interactivity of other ITC with the opportunity to connect with real people and to participate in real world events.

Facilitating the Acquisition of Basic Skill

The transmission of basic skill and connects that are the foundation of higher order thinking skills and creativity can be facilitated by ICT through drill & practice.

Enhancing teacher training

ICTs have also been used to improve access to and the quality of teacher training. At India Gandhi National Open University, Satellite-based one-way video and two way audio conferencing was held in 1996, supplemented by print materials and recorded video to train 910 primary school teachers and facilitators from 20 district training institution in Karnataka state. The teachers interacted with remote lecturers by telephone and fax.

E-Learning

It is a combination of learning and technologies to provide higher value based integrated learning, anytime, anyplace to anyone. It is a flexible, quick and high quality learning methods, which uses various learning tools of internet.

Audio

Sense of learning plays a vital role in the field of teaching and learning. Hence the audio track is incorporated for all the textual messages.

DISCUSSION

Most of academicians have called this time as age of information technology. It is noticed that the available information technology materials for educational system are helpful to the teaching community at all levels. It is observed that many kinds of educational software/packages are available to make learning effective. Because of this, an individual teacher gains a great deal of extra efficiency by using available IT materials in the classroom/outside the class-room. For example keeping the records, preparation of schedules and printed class-room materials can be produced efficiently. It can be said that the students will be easily motivated by modern student-centered teaching methods.

CONCLUSION

It is learnt that learning by pictures/materials is a permanent learning and it can be retained for long time. In nutshell, it can be said that teaching learning process will be made effective, in any field, with help of innovative methods like student-oriented methods or teaching through illustrated teaching aids. Students are to be encouraged by teachers for improving their studies through the

available information technology materials. All teachers have to be requested for teaching to be made effective by using available information technology materials. However, efforts should be made to fulfill the requirements of competitive learning with world standards. Every educational institution has its own problems like geographical, regional, economical and others problems therefore, students' studies should be linked with facilities available in the campus. Thus, on-line Library, facility/Internet/computer laboratory facilities can be made available to all students easily. The following pointers can aid for better result from the students:

❐ Innovations in students Evaluation.

❐ Improving Assignments to be given to students.

❐ Improving the Quality and Relevance of laboratory work.

❐ Development of higher order cognitive skill.

❐ Converting the syllabus into set of competency based learning objective.

❐ Theory followed by practice and practice followed by theory.

REFERENCES

Coursey, D. 2011. What's wrong with PowerPoint- and how to fix it? *Anchor Desk.* Http://www.zdnet/com/anchordesk/stories/story/o,107338,2914637,00.html.

Craig, R.J. and Amernic, J.H. 2009. PowerPoint presentation technology and the dynamics of teaching. *Innovative Higher Education*, **31**(3): 147-160.

Cyphert, D. 2012. The problems of PowerPoint: visual aid or visual rhetoric? *Business Communication Quarterly,* **67**: 80-83.

Garner, R. 2012. Learning from school texts. *Educational Psychologist*, **27**: 53-63.

Hlynka, D. and Mason, R. 2008. 'PowerPoint' in the classroom: what is the point? *Educational Technology,* **38**: 45-48.

Lowerison, G., Sclater, J., Schmid, R.F. and Abrami, P.C. 2012. Student perceived effectiveness of computer technology us in post-secondary classrooms. *Computer and Education,* **47**: 465-489.

Lowery, R.B. 2013. Electronic presentations of lectures – effect upon student performance. *University Chemistry Education,* **3**(1): 18-21.

Miller, R.B. and McCown, R.R. 1996. Effects on text coherence and elaboration on recall of sentences within paragraphs. *Contemporary Educational Psychology*, **11**: 127- 138.

Szabo, A. and Hastings, N. 2009. Using IT in the undergraduate classroom: should we replace the blackboard with PowerPoint? *Computer and Education,* **35**: 175-187.

Tufte, E.R. 2009. The cognitive style of PowerPoint. Cheshire, CT: Graphics.