The Scenario of School Education in IT

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Abstract

As technological advances are introduced in education, the promise and potential of IT in enhancing learning is attractive, but the lack of initiative and support has hampered its progress. Opportunities are arising as communications, computer and TV technologies combine. Technology should be used as an aid to learning. Investing in education, and especially primary education, is the key to shaping the future in an increasingly inter-dependent world. There are many potential advantages of the use of IT in education. IT has replaced lectures, laboratories and tutorials. Also it provides resources for learning which are more effective, richer and readily available for extended hours and open to a wider range of students. IT may be applied to Primary education as well as Secondary education but in most of the schools computers are being taught as a subject not as a tool. In government schools there is lack of awareness and resources. Organizations and governments need to learn how to make wise investments in IT for education and training. Only a thorough understanding and an open attitude will help the nation.

1. Introduction

Computers are changing the way we work and the way we live. We must use IT to encourage students to learn more independently and to learn actively. Our key objective should be towards the use of IT to help equip our young with learning skills, creative thinking skills and communication skills. Effective use of IT will definitely help students to learn better and think differently. India as an emerging country is still not capable of imparting the education especially primary education using IT. A good infrastructure is crucial for the successful implementation of IT programmes in schools. By and large, textbooks remain the principal instructional material in the classroom. With a view to introducing computer literacy, CLASS scheme was introduced in 1984-85 under which about 4,000 Senior Secondary Schools have been covered but still there is lack of IT in primary education. I feel if India as a developing nation wants to compete with the rest of the world, then it should improve its education system first. Students find textbooks to be dull and boring but if the same topic is being taught through multimedia then it becomes interesting for them to learn. Education using IT can be imparted to the student from any medium, not necessarily English medium. The only need is the exposure to them.

2. Role of IT in education

Because IT is so powerful, it can be used at all levels of education and training, from primary to higher education and in the workplace. In certain situations IT can probably be more effective than any other media, for example in

- Dynamic graph drawing
- Models presented by students
- Simulations to save resources
- Illustrated lecture to improve visual communication
- Animations for the better understanding

IT may be used in the education to teach students the way the things happen. E.g. A class four student need not mug up all the steps for how the days and nights are formed? How the season changes? How the food is digested? If he/she has been practically shown all these steps through animated software then it will create a better learning and better understanding of the subject among students. Science, History, Geography and many more subjects can definitely be taught effectively with the use of IT.

There are many productivity as well as communication tools available in IT but the need is to increase the awareness for right implementation of such tools at right place for the better results.

3. Private Education System

Computers are used just for routine teaching, but are not put to use in innovative ways. The scenario is not same in private schools. Compared to Government schools, the urban schools are providing computer facilities and infrastructure to their students but there computer is being taught as a subject and not as a tool and / or application. Students easily tend to learn the application but do not know much about the practical implementation of any application. The following measures must be taken to improve this education system-

Enhance linkages between the school and the world around it.

Communication and collaboration with other institutions must be there to acquire richer perspectives in an increasingly borderless world. This will help students and trainers to understand what is happening in the world around.

Generate innovative processes in education

Careful development of new teaching and learning strategies will open new possibilities for curricula and assessment. Schools should be given autonomy to deploy IT resources flexibly. Design, development, adaptation and integration of learning material into courses must be done carefully. Curriculums must be designed to encourage students to engage in more active & independent learning.

Enhance creative thinking and lifelong learning

IT-based learning strategies help to develop students' ability to think flexibly and innovatively. They will learn to co-operate with one another and to make sound value-based judgments.

Skilled trainers

A good human resource is one of the key to successful implementation of IT in teaching and learning. Train every teacher in purposeful use of IT for teaching. Attractive salaries may be one of the criteria to have skilled IT personals in teaching.

4. Government Education System

Lack of initiative ness and lack of resources has held back the use of IT in this education system. Students are deprived from the advantage of new technologies in teaching and learning process. There is lack of awareness among the teachers itself. If awareness is there, no funds are available. For years there is no updating of syllabus therefore no competition is there. Moreover the teachers in the government schools are not competent enough as there is no training available to them. The following measures must be taken to improve this education system-

Promote administrative and management excellence in the education system

The use of IT must be there to promote greater efficiency in administration and communication, thereby supporting more effective educational management. Software and hardware standards must be encouraged. Government must encourage purchasing deals for learning and authoring software at national level.

Provide Infrastructure

Install networks and computers for education. Schools should be encouraged to convert existing rooms into computer laboratories and IT learning resource rooms. Other areas such as the library, staff room, and science laboratories should be well equipped with new technologies. Audio Visual/Lecture rooms should be set up so that teachers and students could have access to IT in all key teaching and learning areas of the schools.

Training the trainers

Teachers' difficulties in adopting IT have tended to centre on lack of time, lack of support staff, lack of information and lack of suitable materials. Cost-cutting should be avoided to balance the budget. Inspectors should be trained to evaluate use of IT in schools. Research and Development must be supported to improve learning. Funds must be allocated to train the trainers.

Curriculum Development & Learning Resources

Prepare a national syllabus for basic IT education and goal should be towards acquiring better balance between acquisition of factual knowledge & mastery of concepts & skills. Facilitate use of relevant Internet resources for teaching & learning. Provide a system of convenient procurement to help schools obtain software easily & on time.

5. Role of e-learning solutions provider

E-learning solution providers play a vital role in making a successful move towards the 21st century education in schools. They should provide tools and content for interactive self-paced learning by students, as well as rich-media presentations for teacher-led classroom learning. The language should also be kept in mind while developing the e-learning solutions. The solutions should be there keeping in mind the followings-

- Schools
- Teachers
- Government
- Students
- Parents

Tools Development

The tools developed by these players must be designed keeping in mind the needs of the education system. Tools should help teachers as an aid to present their learning material in an innovative way. E.g. tools may be developed

that support creation and management of question bank and eTests. With the help of these tools, teachers will be able to create multiple choice questions and deliver them to students.

Content Development

Content should be developed by working at the grassroots level with educators and students. The content available should consist of pedagogically sound and visually rich curriculum resources mapped and customized as per the school's Scheme of Work. This content should be streamed into the classroom and shown by teachers in the classroom to make abstract concepts real.

Partnerships

Organizations must enter into important partnerships with companies across the world to build next-generation education products and services.

6. Conclusions

Integration of IT in education has definitely given the positive results but at the same time, one need to be cautious and refrain from overuse. It should be used as a teaching aid and not replace a teacher or the book. Information technology (IT) can make teaching and learning more effective and efficient, but one need to invest in its physical and organizational infrastructure, in how to use it, and in integrating IT into the students learning. Government should take measures to promote excellence in the education system with the help of IT. Careful evaluation of wide range of IT uses for learning should be there. Some require large teams of many specialists to produce and deliver learning materials. Others need only normal staff levels of IT skills. Staff in teaching teams needs a wide range of skills to succeed in providing IT for learning. Pilot projects by the government should be run to demonstrate excellent practice.

7. References

[1]   Gail Marshall and Mikko Ruohonen "Capacity Building for IT in Education in Developing Nations"
[2]   www.networkmagazineindia.com
[3]   www.educomp.com/
[4]   www3.moe.edu.sg/edumall/mpite/index.html
[5]   iiit.net/research/cite/index.htm
[6]   www.expresscomputeronline.com/
[7]   www.digitallearning.in/