

EDUCATIONAL IMPLEMENTATION OF TECHNOLOGY

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ABSTRACT

Efficient learning is an important issue in this era of technology. In this paper we have discussed the role of information technology in the fields of languages, natural sciences, mathematics, social sciences, arts, measurement, modeling and simulation, robots and feedback devices, statics, Graphics, Music, Databases. Information Technology can be used as a practical and realistic approach to curriculum. Moreover, according to the resources available, teacher development can be exercised efficiently and cost effectively. Use of Information and communication technology in education not only increases the learning power of pupil but also helps in developing their interest in the subject being taught. Focus should be on 'applied subject teaching' as it helps in creating professionalists. Information technology can also be used by teachers for the evaluation of students which help in creating quick and efficient assessment charts.

Keywords: *ICT in education, Technology in curriculum, Education and information technology.*

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I. INTRODUCTION

Every country counts on its youth to be its future. So, the education of children and youth is the main factor on which the prosperity of a country depends. All governments aim to provide the most comprehensive education. Any political agenda, will highly follow education with technology because of the progressing position of Information and Communication Technology. Today technology is being used in every field. Use of technology in education starts from kinder garten in playway teaching and extends upto senior secondary, graduation, post-graduation and so on.

II. INFORMATION AND COMMUNICATION TECHNOLOGY

The technology that combines acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information to form information is called Information technology (IT). It is said that “what you see is what you get” (WYSIWYG). Thus, graphics play an important role in teaching as children are able to restore all the contents in their minds when they have learnt it through pictures or videos.

III. STRUCTURE FOR CURRICULUM

Both, teachers and students can use the following curriculum structure to enhance their knowledge using ICT. The four curriculum areas are tied to the four stages[1] :

- **ICT Literacy –**

Basic computer skills are taught so that user feels friendly with technology.

- **Application of ICT in Subject Areas-**

Different subject concepts are taught through information and communication technology

- **Infusing ICT across the Curriculum-**

computers are used as an integral part of the course work.

- **ICT Specialization –**

Technology is taught and learned as an applied subject to prepare students for a profession.

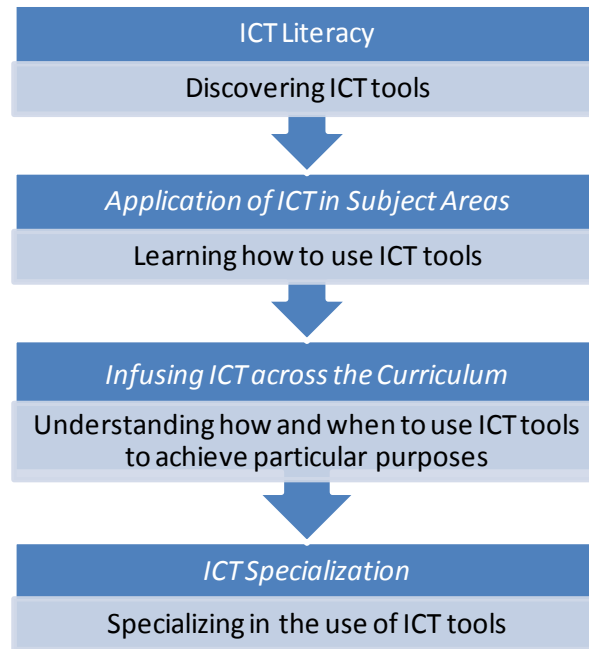


Figure: Stages of teaching and learning with and through ICT.

IV. ROLE OF ICT IN DIFFERENT SUBJECT AREAS

ICT has its own impact on every subject. Any stream it may be is incomplete without technology. Some of the basic streams are:

1) Languages:

Programming languages are a part of ICT itself. But, here we focus on learning different verbal languages. Several softwares are available that may be used to read, write and translate languages. One can learn more efficiently through computers as a using a single word in every sense in described. Such softwares are more efficient than the boring book reading work.

2) Natural Sciences:

In natural sciences like physics, chemistry, biology etc, ICT can be used in various concepts in studying laws in graphical manner, measuring each and every change in different chemical reactions and using virtual reality in human internal organ study.

3) ICT in Mathematics:

Introduction of ICT in mathematics has not only made learning formulae easy but also has explored concepts of functions, integration, differentiation etc in a ready-made way. Various e-portals are available on which students can fill up their requirements about any specific topic and they are there with all the details anywhere and anytime.

4) ICT in Social Sciences:

Social studies teachers mostly prefer board, printed materials, overhead projectors, television/video, radio cassette recorder, multimedia computer and slide projector for

instructional aims. Teachers most frequently use computers for accessing information on the Internet, communicating electronically, doing word processing and making slide presentations[2] Social sciences can moreover be learnt by live examples from the internet.

5) Art-

There is a wide variety of resources, technologies and practices that we can draw upon, ranging from the capture and manipulation of visual images, creating multimedia portfolios, engaging in mobile and interactive communications, and enacting spatial sculptures with new locative technologies[3]. Various softwares such as paint, photoshop, corel draw, pagemaker etc are available for the art work of students.

6) Measurement and Statistics:

Measuring with ruler and tapes are easy for a few miles but what about light years? In such cases one cannot use these devices. Astronomers use softwares to calculate all these distances, times and velocities etc which have made their work easier and much accurate.

7) Modelling and Simulation:

A model is an artificial re-creation of an object and behaves as a real thing does. A simulation is when a model carries out an action. An example of modeling and simulation is a sports car in a computer racing game. ICT has enabled the concept of virtual reality which can be viewed in games, action and thriller movies etc.

8) Robots and Feedback Devices:

It is similar to modeling and simulation but the only difference lies in that the model here is a real object rather than a computer graphic and is fed by programmed instructions which are used to carry out operations after a specific command is given to it. Mobile phones are the best example of embedded systems that work on human commands.

9) Creating Graphics and Music

Various animation softwares are available to create your own graphics which are used by animation companies to produce banners and cartoon characters. Moreover, electronic keyboards and grid-play softwares are also available to create music instead of using the ancient time instruments. Using ICT in music we are able to create, edit and remix the lyrics of a song or some other content.

10) Spreadsheet & Database Design:

Spreadsheets has enabled us to record the whole data in a single file consistently and without being redundant. Formulae can be applied and carried out throughout using spreadsheets.

Similarly, the database systems have made query processing more easier. Distributed and parallel processing has brought a drastic change in the information society.

V. ICT FOR TEACHERS

ICT can also help to accelerate teacher training as there is a shortage of trained teachers in the world. Today's classroom teachers must be prepared to provide technology-supported learning opportunities for their students. Schools and classrooms, both real and virtual, must have teachers who are equipped with technology resources and skills and who can effectively teach the necessary subject matter content while incorporating technology concepts and skills.[4] sophisticated data-gathering Real-world connections and analysis tools are only a few of the resources that enable teachers to provide unimaginable opportunities for conceptual understanding. Traditional educational practices are no longer so strong to provide teachers with all the skills for teaching students. Teachers must teach students to apply strategies for solving problems and to use appropriate tools for learning, collaborating, and communicating. lack of funds is not the only problem but, lack of understanding and lack of adequate training. Students should be taught in an innovative way so that they are able to read, remind and apply the concepts to real life situations which in actual will lead to 'applied subject teaching'. They should not be kept upto theoretical knowledge but should be given practical lessons.

VI. CONCLUSION

The advent of ICT has brought up a drastic change in ones' life. It has shrunk the whole world into a global village and is accelerating every day. The use of technology has led each and every field to find out newer ways to teach old concepts. Education is also one of these. Teaching through smart classes and virtual classes has made teaching easy and much more fruitful. Nevertheless, as technology brings hazardous effects also, the increasing use of internet is leading to increase in cyber crimes and net addiction which are the dangerous aspects of e-learning.

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