Use of Information Technology with Entertainment
For
Science Communication

Author
Prof. Dipak U. Tatpuje
Secretary, VidyaDeep Foundation
and
Principal
Satara Education Society's
V.N. Chiplunkar Technical Institute, Satara

THEME

HUMAN RESOURCE DEVELOPMENT IN SCIENCE COMMUNICATION

I.   Abstract

Traditional system of science communication needs to be developed with the available accessories of the Information Technology. It can create interest among the stakeholders. Science awareness among the secondary and higher secondary students is possible with the help of multimedia. In order to eliminate digital divide, "Information Technology revolution" is necessary. It needs basic infrastructure facilities, ICT tools, trained science communicators and facilitators.

Science Communication can be improved by using Interactive Computer Aided Instruction (CAI) packages, Virtual labs, e Learning, Multimedia learning Materials. Animated and simulated computer packages are useful to create interest in understanding the concepts of the science.

II.   Introduction:

Technological innovations with storyboard writing have brought many changes in the various fields including science communication. Use of ICT (Information and Communication Technology) would be the inherent part of this process. Science Communication can be made more effective by adding dimensions of multimedia- the audio, video, animations, simulations etc. Science communication through entertainment is possible only by introducing electronic tools in education.

Present System of Science Communication:

Present system of science communication is with the use of available aids, medias i.e. Newspaper articles, Demos, charts, models has many limitations to create interest among the learners. Lectures, Demonstrations, Sketches, Transparencies, showing Objects, puppets are the traditional ways of science communication. Such method with technology is useful to expand communication beyond the boundaries. Availability of television has created an interest at various levels that gives insight of games, movies and pictures. Such tools with the use of IT are useful for improving and making interest in science communication process.

Scenario of Science Communication by Entertainment:

Science communication through entertainment is a process in which communicator may utilize modern technology such as Computer Aided Instructions (CAI), multimedia, Internet, mobile phones, animations, simulations, audio-video clips etc. It allows constructing virtual environment for multiple interactions where learning materials in electronic forms are used. It gives permanent change in mental association due to experience. It gives "Procedural knowledge dimension" to the learner that is related to the specific skills, algorithms, techniques and even to decide the appropriate procedures.

The other advantage of this system covers the possibility of distributed learning process. The movement of Communicating Machines came into the scene during this evolution of Science communication through Entertainment. The Educationist B. F. Skinner came to be known as the strongest and proponent of teaching machines that can be replicated into the communicating Machines. CAI, Instructional System Design (ISD), "Analysis, Design, Development, Implementation and Evaluation (ADDIE)" are the processes used in this process for such tool more effective during communication. The Edger Dale's cone of experience shows direct purposeful experience as effective tool of communication.

Objectives:

This project is taken up with the past experience and findings of the published write-up of "article series" entitled "Historical Development of Scientific Innovations" in regional marathi newspaper: Daily Pudhari and also

"Information Technology Research Project sponsored by M. S. Text book Production and Curriculum Research (Balbharati)". This exercise is also based on the following objectives and study observed during the use of CD Planet: a CAI package that communicates science behind ICT.

1. To set Science awareness among the secondary level students.
2. To know effectiveness of the science storyboard writing.
3. To achieve interest of students in science communication.
4. To know effective media of science communication.
5. To know use of various medias of IT for science communication.
6. To achieve participatory activities in the science communication.

III. Methodology:

Science communication is followed with the traditional methods and then further with the help of technology. Experimental communication and participated communication with the help of activities has been tried out in the rural and urban areas.

Science communication by writing articles in the newspapers with story based contents gives impact on the stakeholders from the rural community is found moderate. Involvement of the trainer or facilitator needs to create awareness. A teacher community can play a vital role in this regard.

Urban community stake holders gets more benefited with the ICT based packages to popularize the science communication as they have facility of Computer systems and easy accessibility of machines and trainers than the rural community.

Skill-criteria's considered for this project are:
i. Fundamental Concepts and Operations
ii. Applications of Science
iii. Create awareness about the science
iv. Communication Tools
v. Technology Research Tools
vi. Tools for Problem Solving

Performance objectives of CAI supported Learning Material for students of secondary level would be considered into three domains:
1. Cognitive Domain.
2. Affective Domain, and
3. Psychomotor Domain.

Use of Educational Technology parameters for Instructional Design carries top most priority while designing use of IT tools.

IV. Benefits:

Science communication with the use of Information Technology tools creates an environment of progressive communication process with following benefits.

1. Anytime / Anywhere
2. Knowledge gain.
3. Consistent Quality
4. Creating Interest and awareness
5. Achievement Motivation.
6. Complete Satisfaction.
7. Techno-savvy
8. Elimination of Digital divide
9. To know the use of multimedia Packages
10. To generate sense of creativity.

V. Conclusions:

Science communication through fun, entertainment creates an interest. It eliminates digital divide and increase the confidence to become techno-savvy. Changing time with technology and innovations would give best possible science perspective. In rural area, technological facility is the major obstacle to popularize science through Information Technology. Electrical power availability is the other hurdle to be considered on the top most priority.

VI. References:

Books
1. Bush R. N. 1998 *Micro-Teaching* Oxford
2. Dr. S. K. Mangal *Educational Technology* Tandon, Ludhiyana
3. S. D. Khanna 1993 *Technology of Learning* Doaba, New Delhi

Articles in a Journal
1. Tatpuje Dipak *Project of Balbharati for Govt. of Maharashtra* Information Technology
2. Tatpuje Dipak *A series on " Historical Development of Scientific Innovations"* Marathi Daily Pudhari, Kolhapur
3. Tatpuje Dipak *A series on " Historical Development of Scientific Innovations"* Marathi Daily Aikya, Satara

Note:
Paper presentation will be followed by the demonstration of CAI Package Digital Planet and Virtual Science Lab