

Multimedia an Innovative Instructional Technology for Learning Solution

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ABSTRACT

This paper explores the need and importance of Instructional Technology with special reference to Multimedia based Learning technology in teaching learning process. With today's multimedia courseware, once a programme has been designed and built in with the appropriate responses, it should be flexible and permit change and alteration. Multimedia is a term frequently heard and discussed among educational technologists today. In essence, multimedia merges multiple levels of learning into an educational tool that allows for diversity in curricula presentation. The principle of instructional technology and learning technology are associated with the learners' achievement. Intervention of technology in the teaching learning process as a result of Educational Technology is the product of instructional and learning process. Use of Information Communication Technology (ICT) is the burning issues now days in our teaching learning process. For many of us, the lure of computers is a powerful one. Better understanding in the part of learners, applications of pedagogical issues related to learning process with respect to their developmental stages are the remarkable area for educational problems. Intervention of ICT, Multimedia Based learning Environment from facilitation to obstructers are also critically analysed in this paper.

I INTRODUCTION

It is the responsibility of Government to provide quality education from elementary to higher level to their people by which development of Nation is possible. Education is the key by which social development is possible irrespective of any factors acts as barriers directly or indirectly for the development. In teaching learning process the core principle according to the objective to see the maximum output in the part of learner. The principle of instructional technology and learning technology are associated with the learners' achievement. Intervention of technology in the teaching learning process as a result of Educational Technology is the product of instructional and learning process. Use of Information Communication Technology (ICT) is the burning issues now a day in our teaching learning process. For many of us, the lure of computers is a powerful one. However, many of us also refrain from using computers for fear of failure. We want to hone computer skills, but are scared to make the effort because we lack those very skills. Too many of us, especially in the field of learning, are caught in this modern tug-of-war. Better understanding in the part of learners, applications of pedagogical issues related to learning process with respect to their developmental stages is the remarkable area for educational problems.

The basic objective of interactive multimedia material is not so much to replace the teacher as to change the teacher's role entirely. As such, multimedia must be extremely well designed and sophisticated enough to mimic the best teacher, by combining in its design the various elements of the cognitive processes and the best quality of the

technology. With today's multimedia courseware, once a programme has been designed and built in with the appropriate responses, it should be flexible and permit change and alteration. We shall look at the usage, advantages and disadvantages of multimedia in education and training. Some of the prototype multimedia lessons are also given at the end as examples. Multimedia is a term frequently heard and discussed among educational technologists today. Unless clearly defined, the term can alternately mean a judicious mix of various mass media such as print, audio and video or it may mean the development of computer-based hardware and software packages produced on a mass scale and yet allow individualized use and learning. In essence, multimedia merges multiple levels of learning into an educational tool that allows for diversity in curricula presentation. Multimedia is the exciting combination of computer hardware and software that allows you to integrate video, animation, audio, graphics, and test resources to develop effective presentations on an affordable desktop computer. (Fenrich, 1997).

II DEFINITIONS

Multimedia is characterized by the presence of text, pictures, sound, animation and video; some or all of which are organized into some coherent program. (Phillips, 1997). Today's multimedia is a carefully woven combination of text, graphic art, sound, animation, and video elements. When you allow an end user, i.e. the viewer of a multimedia project, to control 'what' and 'when' and 'how' of the elements that are delivered and presented, it becomes interactive multimedia. Why use multimedia at all? Of what use is multimedia in education? The

answers to these questions could be sought through an understanding of the capabilities and limitations of the medium. Besides being a powerful tool for making presentations, multimedia offers unique advantages in the field of education. For instance, text alone simply does not allow students to get a feel of any of Shakespeare's plays. In teaching biology, an instructor cannot make a killer whale come alive in a classroom. Multimedia enables us to provide a way by which learners can experience their subject in a vicarious manner. The key to providing this experience is having simultaneous graphic, video and audio, rather than in a sequential manner. *As such multimedia can be defined as an integration of multiple media elements (audio, video, graphics, text, animation etc.) into one synergetic and symbiotic whole that results in more benefits for the end user than any one of the media element can provide individually.*

III NEED, ADVANTAGES AND PRACTICAL DISADVANTAGES OF MULTIMEDIA APPLICATION

The pedagogical strength of multimedia is that it uses the natural information processing abilities that we already possess as humans. Our eyes and ears, in conjunction with our brain, form a formidable system for transforming meaningless sense data into information. The old saying that "a picture is worth a thousand words" often understates the case especially with regard to moving images, as our eyes are highly adapted by evolution to detecting and interpreting movement. For example, a photograph of Ganges in Varanasi, apart from being aesthetically pleasing, can contain a wealth of information relating to the culture, religion, geography, geology, climate, history, and economics of the area. Similarly, a recording of a politician's speech can allow us to discern significant semantic features not obvious in a written transcript.

Multimedia requires high-end computer systems. Sound, images, animation, and especially video, constitute large amounts of data, which slow down, or may not even fit in a low-end computer. Unlike simple text files created in word processing, multimedia packages require good quality computers. A major disadvantage of writing multimedia courseware is that it may not be accessible to a large section of its intended users if they do not have access to multimedia-capable machines. For this reason, courseware developers should think very carefully about the type of multimedia elements that need to be incorporated into applications and include only those that have significant value.

Further, if the prerequisites for using multimedia include to computers with related software, the user must possess a minimum level of computer literacy in order to exploit the capabilities of this medium for learning. And finally, of the educator who is unfamiliar with the production and design of multimedia courseware or packages can be equally complicating. The critical question, then, is: How do we overcome some of the identified barriers and begin the process of multimedia implementation alongside the instructor, textbook, and blackboard? It is the barriers rather than the technologies which we must address before multimedia, or for that matter, any media technology becomes as accepted as the printed text or guidebook.

IV USE OF MULTIMEDIA IN AN EDUCATIONAL SETTING

The features of interactive multimedia training can thus take place individually at the learner's pace and on his/her own time. Medical procedures, first-aid training and instruction of paramedics or even surgeons are made both simple and interesting through the use of multimedia. The doctor or paramedic can run through a complete procedure on videodisc and analyze all the possible outcomes and can evaluate the possibilities before treatment of the real life patient starts. In all the above instances, the user can and normally does work individually and in an interactive mode with the medium. In the next section we look at the hardware and software required for development of educational multimedia which includes.

- (a) Alternative perspectives
- (b) Active participation
- (c) Accelerated learning
- (d) Retention and application of knowledge
- (e) Problem-solving and decision-making skills
- (f) System understanding
- (g) Higher-order thinking
- (h) Autonomy and focus
- (i) Control over pacing and sequencing of information
- (j) Access to support information

V HOW MULTIMEDIA WORKS IN LEARNING

Alessi and Trollip describe how effectively designed learning environments (including multimedia learning environments) include these four elements:

- (a) Presentation of information
- (b) Guidance about how to proceed
- (c) Practice for fluency and retention
- (d) Assessment to determine need for remediation and next steps

VI PRINCIPAL DESCRIPTION

Multimedia Learning from text and graphics is better than from text alone. Multimedia learning is also of interest to people working outside traditional educational fields. Human factors researcher Lawrence Najjar looked at existing research on how multimedia affects learning and found that these practices could be beneficial for learning effectiveness:

- (a) Select media with the best characteristics for communicating the particular type of information – for example, graphics help people retain spatial information better than text
- (b) Use multimedia specifically to support, relate to, or extend learning, not just as embellishment
- (c) Present media elements together so that they support each other
- (d) Use multimedia that effectively employs verbal and visual processing channels to help learners integrate content with prior knowledge (this is called elaborative processing)
- (e) Allow learners to control, manipulate, and explore positively impacts learning and elaborative processing
- (f) Use familiar metaphors and analogies, feedback, and personalization to augment motivation
- (g) Encourage learners to actively process and integrate rather than receive passively
- (h) Match assessments media to presentation of information media

VII CONCLUSION

Some teachers make lessons interesting; some don't. Those who are skilled in theatrics have an advantage: they can conduct classes that grab and hold the attention of their students. Since no one can require teachers to add this talent to their teaching repertoire, schools have to adopt the attitude that children must accept teaching as it is, even if it is sometimes uninteresting. After all, students are the ones benefiting from education. They ought to be willing to put up with a little discomfort in return for what they are receiving. This idealistic but naive attitude means little in a

classroom. Whenever students are bored, learning is lessened appreciably. In the mass media world of today, instructors face an additional obstacle when they try to keep the attention of students: they must indirectly compete with highly talented actors and writers who bombard pupils with entertaining films and TV programs outside school hours. These shows keep the attention of pupils with material that is cleverly written and superbly delivered. The contrast between these professional media presentations and normal classes increases the apathy that students suffer in classrooms. Children have grown accustomed to being entertained. They are not at fault because they are presented with a constant outpouring of technically magnificent programs outside school. Nor is it the fault of teachers when their attempts to compete fall short. They chose to be teachers, not actors or actresses. They can't be criticized for failing to excel in knowledge and in delivery skills at the same time. Even writers and actors aren't skilled in both. Nonetheless, teaching must contend against these clever shows that students see daily on television and in movies. Multimedia based learning environment in the way for overcome teaching learning problems from elementary to higher education worldwide.

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