

## ROLE OF NETWORK TECHNOLOGY IN HIGHER EDUCATION

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### Network Technology and Higher Education

The use of Network Technology is growing rapidly throughout the large educational community. The computer networked learning environment facilitates the higher education by providing teachers and learners with valuable sources of materials. Teachers can exploit multimedia to support their teaching. Teachers also integrate authentic materials on numerous websites. Electronic newspapers are a great change for educators and learners because they are easily accessible and almost free. Besides, learners can obtain lecture notes and prepare lessons before hand or review the lessons from anywhere at any time suitable for them. Computer network has been seen as a useful tool for communication. With effective networking facilities, the colleges and educational institutions are able to access the information they require whenever needed. Teachers do not have to spend time for tracking student-related information, because all the details are maintained on a computer at a centralized location. The role of networking technology redistributes the attention of the teachers and the classmates so that the less able students can become more active participants in the class.

### Present Scenario of Network Technology in Higher Education

#### Internet

Internet is a huge network of networks. It connects millions of computer all over the world, forming a network through which computers can communicate with each other. The instant worldwide connections enabled by the internet have changed the way teachers and learners work in their teaching and learning. Teachers find the internet useful because they are able to search for information relating to their subjects. They can acquire graphics and pictures that can be used to explain their lessons more clearly. They can participate in discussions on the internet and learn about the latest developments in their subject areas. Teachers must also ensure the students to use only the authentic website for learning and find more information about topics discussed in class. A number of applications of computer network technology have been utilized such as multimedia, e-mail, electronic journals, databases, World Wide Web, chat, audio and video conferencing, intelligent tutoring system and artificial intelligence.

#### Intelligent Tutoring Systems (ITS)

ITS are computerized educational systems that incorporate artificial intelligence methods. The original

motivation for the development of computerized tutors was the observation that one-to-one human tutoring is much more effective than classroom teaching. Artificial Intelligence methods provide reasoning comparable to human experts and are used to make decisions in the role of a teacher. Although human tutoring for all students would be ideal, it is not always feasible and many researchers believe that individualized computer teaching is an improvement over standard lecture methods.

### Artificial Intelligence

It attempts to stimulate human senses, thought processes, and actions. There are three areas of Artificial Intelligence. They are Neural Network, Virtual Reality, Knowledge-based (Expert) Systems, Robotics and Creative Machine.

**1. Neural Network** : Artificial neural networks are modeled upon the brain's capacity to process thought through neuron and synaptic connectivity. In the brain neurons send electrical charges down axons to the synaptic endings where these charges are then passed to other dendrite connections and coherent thoughts are chemically lodged. The key to making certain connections is the strength of prior connections. Available dendrites pass along certain electrochemically charged signals. The more often these same pathways are forged in the brain, the more hard wired or concrete the thought pattern.

**2. Virtual Reality:** Virtual Reality is an artificial, or simulated, reality generated in 3D by a computer. Virtual Reality is also commonly known as VR, artificial reality or virtual Education.

**3. Knowledge-Based (Expert) Systems:** People who are expert in a particular area-certain kinds of education, and so on – are generally well paid for their specialized knowledge. This is exactly what is being done with so-called knowledge-based (expert) systems. Knowledge-based systems also known as expert systems are a type of artificial intelligence that uses a database to provide assistance to users.

**4. Robotics:** Robotics is the field of study concerned with developing and using robots. Robots are computer-controlled machines that mimic the motor activities of living beings. Some robots can solve unstructured problems using artificial intelligence.

**5. Creative Machine:** Another approach to creativity via a neural network was invented by Dr. Stephan Thaler. This may be the closest option yet that one can experience on the internet to creative thought as processed programmatically using the mechanics of neural network. The site [http:// www.imagination-engines.com](http://www.imagination-engines.com) gives the full idea of Thaler's invention. The site is very informative and playful. In summation, enchanted mind believes that true creative mind is generated by something beyond the scope of any computer program, either algorithmic or non-linearly based. Creativity is not an intellectual process or even a purely artistic or emotional process. Intuitive insight cannot be described adequately, but must be experienced. Though the field of artificial intelligence is progressing by leaps and bounds, it is and will remain artificial in its scope. Creative spirit will never be boxed or caged in a mechanical devise. It is this spirit that needs to be cultivated.

#### **Conclusion**

In most of the traditional classrooms, the students are accustomed to the traditional language teaching style, which is always teacher centered and book centered.

#### **References**

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Therefore the role of networking technology in the learning process leads to bestow the quality and excellence among the learners. Network technology provides access to various sources of information from across the world. Network technology allows higher education system to bring the lab to the classroom, rather than making students move to separate classrooms when they need to use computers. It therefore saves cost and makes students more productive. Students and staff can access courses, administrative and research services via the Internet and to each other via e-mail, anytime and anywhere on campus, using wireless laptop computers. Students can receive class assignments or virtual tutorials from their professors, communicate with each other and their instructors via e-mail and store files at a central server, while moving from the library, to the cafeteria, to an outdoor common area. Through network technology the teachers and the learners access the email and voice mail by way of internet. In universities and colleges or educational institutions the teacher should plan to take advantage of the use of network technology.