

Virtual Networking as an Essence of the Future Learners

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LEARNING THROUGH NETWORKING

Distance education may be defined as a set of practices to plan and implement educational activities where there is a separation between teaching and learning. This separation may result from distance, time, or other barriers. Distance education offers a way to overcome this separation, chiefly through its learning materials, the use of information and communication technologies (ICTs) to provide tutoring, linking learners to the system and each other, and the use of feedback and student support systems. The technologies used in distance education systems include mail, face-to-face sessions, radio, television, audio and video, compact disks, e-mail and other computer connections, and teleconferencing systems (Murphy, Paud, Anzalone, Bosch & Moulton, 2002, p. 3).

Predictions of the economic and social impact of ICTs abound in the economic and social behavior of the society. The technological trends are extrapolated to illustrate the potential benefits by adopting visionary perspective in resulting “revolutionary changes” in the global knowledge society. Advances in ICTs have been particularly striking in the areas of digital computing and communication networks (Braga, Daly & Sareen, 2003). Superimposed on these factors, education systems no longer remain outside of the basic societal aggregations. Scholars, researchers, and educators are striving hard to produce a quality education system utilizing the benefits of ICTs, and henceforth the educational networks have become the prime beneficiaries.

The Semantic Web is expected by many to open new opportunities to manage information, while allowing for new Web functionalities with significant storage potential. Artificial intelligence and expert systems are expected by many to gain novel power and utility as standards for distributed computing and grid systems spread around the world. New technology-based infrastructure developments open new

possibilities for regions with low-bandwidth connectivity to leapfrog stages of development by entering the “broadband” phase via wireless solutions. The “Wi-Fi” phenomenon is a good example of the “law of unintended consequences” in action, as a technology originally designed to support wireless local area networks is beginning to pave the way to establish low-cost broadband telecommunication systems at the outset.

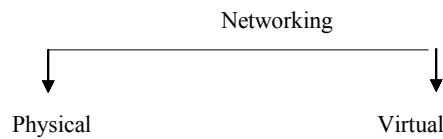
This sort of network should be composed of low-cost devices with cheaper software utilities (Free/Open Source Software), preferably with wireless solutions where applicable, content localization with relevance, continuous update on search of adoptive technologies, and research adoption of content retrieval at low bandwidth.

Networking can be divided into two forms: physical networking and virtual networking (see Figure 1). Physical networking is infrastructure dependent, while virtual networking is being superimposed over the available infrastructure. Virtual networking should adopt low-cost or open-source software utilities to form a common platform of communication among geographically distributed locations. Based on this concept, educators are availing the facilities to form groups and dissemination hubs through e-mail, e-groups, BBS (Bulletin Board Service), virtual seminars, and moderated discussions.

Available technologies can be integrated to form low-cost information providers. Utilizing interactive distance education techniques, educators and learners can be brought together in a common collaborative platform to make the system cheaper and easily available to remote users.

If in most countries the expansion of educational opportunity has been central to the cause of development, so too has been the role played by formal schools in the way that education has been conceived, organized, and offered. Schools—whether they are primary schools in villages or universities in the capital—have been the organizational unit of choice

Figure 1. Forms of networking



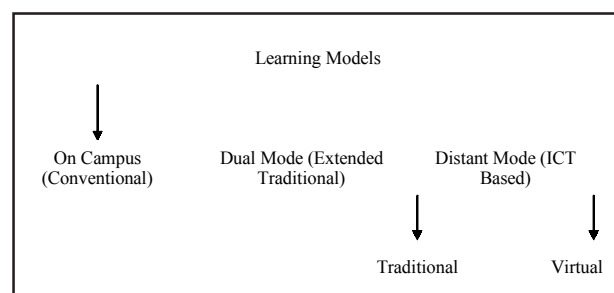
for governments and the agency of hope for social advancement on the part of young people and their parents (Figueredo & Anzalone, 2003).

Virtual learning involves the use of some form of electronic media to enhance the learning processes. Sometimes confused with distance learning (a broader delivery medium that would include text-based learning and courses conducted via written correspondence), courses are delivered via “e-learning” when technology is used to bridge both an instructional and a geographical gap. Accommodating a range of activities, from effective use of digital resources and learning technologies in the classroom, through to a personal learning experience enabled through individual access at home or elsewhere, virtual learning is essentially the facilitation of teaching and learning via the use of some electronic medium.

LEARNING MODELS

Distance education, which has its roots in correspondence education going back to the nineteenth century,

Figure 2. Different learning models



has expanded rapidly throughout the world, especially among the new generation. The advent of computers and communication technology has helped to offer distance education methods the new salience and legitimacy, and has provided tools that overcome many of the constraints to the delivery of education to students learning at a distance.

There are several experimentally verified learning models available for education systems (see Figure 2).

The learning models should be built to achieve the five required competencies as obtained from research in similar aspect. The following skills are needed to prepare a society for basic concept of knowledge (Secretary’s Commission on Achieving Necessary Skills (SCANS) Report, United States Labor Department, 1991):

- the ability to allocate resources (time, money, materials);
- interpersonal skills for effective teamwork and leadership;
- the ability to acquire, analyze, and use and access information;
- understanding of the social, organizational, and technological systems of working; and
- the ability to use appropriate technology.

The learning models need to deliberately target these skills and competencies in order to achieve them.

Furthermore, the syllabi and curricula of a basic education system need to upgrade the following fundamental skills:

- ability to read
- ability to write
- ability to listen and understand
- ability to speak and make it understandable
- knowledge of basic mathematics and arithmetic
- ability to think (creative thinking, reasoning, decision making)
- personal qualities (responsibility, self-esteem, integrity).

DISSEMINATION PROCESSES

A distributed learning platform facilitates the learner-centered educational paradigm, rather than tutor-

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