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E-Learning approach in Teacher Education

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Abstract

There has been an increasing interest in e-learning in teacher training at universities during the last ten years. With the developing technology, educational methods have differed as well as many other processes. Firstly, a definition on e-learning as a new approach should be given. E-learning could shortly be defined as a web-based educational system on platform with Internet, Intranet or computer access. In this model, the lessons planned were simulations and software's for students on polymers and metals. Nine experiments were designed on the topic. Students were interviewed and administered laboratory attitude scales at the end of the experiments. The study concluded that the experiments in the new model were appropriate to teacher training programs and could successfully be administered to large groups.

Keywords: E-learning, new approach and teacher education

Introduction

Firstly, a definition on e-learning as a new approach should be given. E-learning could shortly be defined as a web-based educational system on platform with Internet, Intranet or computer access. The concept of e-learning has two main subtitles as synchronized (where a group of students and an instructor actualize an online conference meeting in a computer environment) a synchronized (where individuals actualize self-training in computer environments). Students have access to the course contents whenever they want and communicate with their peers or teachers via communication tools such as e-mail and forums. In order the distance learning system to succeed in e-learning, the program should be planned as both synchronized and a synchronized.

There have been many studies on e-learning. Aljanazrah & Bader (2006), in their study on e-learning approach in laboratories, developed a teaching model for this application. In this model, the lessons planned were simulations and software's for students on polymers and metals. Nine experiments were designed on the topic. Students were interviewed and administered laboratory attitude scales at the end of the experiments. The study concluded that the experiments in the new model were appropriate to teacher training programs and could successfully be administered to large groups.

Why E-Learning?

Internet has been widely used for less than ten years; however, it has changed the contents of many concepts in our lives as a modern communication tool. Many common concepts such as government, trade, democracy and learning have gained new meanings by taking the prefix "e". E-learning or web-based education is one of the important concepts and opportunities provided by the Internet. The concept of distance learning actually emerged much before than the Internet; actually, it is said to be as old as education.

The distance learning models administered via letters, press, television and CDs have ended up with practical and successful results. As Internet is global, unlimited and open to public, the teaching applications planned for the Internet environment has a potential of moderating the nature of distance learning. It seems that it will be the only distance learning tool of the near future. E-learning, as a new version of distance learning, is applied via the Internet technologies and involves the educational activities, which do not require the presence of the teacher and learner at the same time and place.

From the Classroom Education to E-Learning

When compared to the classroom education, e-learning offers many advantages to students. Firstly, during the e-learning process, students have the chance to decide how long they want to be educated. All the decisions on issues such as learning speed and the intensity of the topic depends on the student. Student has the right to get in contact in case of any problems. It does not require any expenses such as transportation or accommodation. Since e-learning process is a student-centered educational system, the learning materials could be organized according to the professional responsibilities and qualifications of the student. An effective e-learning system enables a student to determine and process his/her learning style, content, aim, current knowledge and individual skills. Therefore, person-specific education could be provided through creating individual learning styles. E-learning enables the individual to plan and direct his/her own learning process, so each student takes the responsibility of his/her own learning.

In additional, the forums, created within the e-learning system, provide students with a discussion environment where problems are solved cooperatively in chat rooms. With the help of cooperation, which is the best way of effective learning, e-learning enables the user not the one-way communication as in the classroom education but the duplex interaction.

Some kinds of E-Learning applications

E-examination: In this application, students are

administered many proof exams in the internet environment before the formal exams, which enables them to determine their approximate levels. These proof exams, which enable the students to determine their approximate readiness levels, are the most facilitated e-learning services.

E-Drills: With the Internet-based drill software's, it is aimed to create an effective and productive studying atmosphere for students. As students access these activities on the Internet, they could study on the units through interactive multimedia software's and reinforce their knowledge by examining numerous examples. Internet-based drill software's with animations and intensive student-computer interaction could be in service within this program. Students enrolled in the distance learning system, could study on the software's with or without sound effects.

E-Counseling: The one-to-one academic counseling provided to the students could also be provided in a similar format on the Internet. Parallel to the research software's, students are allowed to ask questions to their academic counselors related to their course contents.

E-Sound Book: The E-sound book application, which enables especially the visually retarded students to listen to the course book contents, could be provided on the Internet.

Therefore, visually retarded students and the students with screen reading difficulties could access their course books form their offices or from an Internet-café. They could listen to the contents of the course book by downloading the sound files on their computers.

E-Learning Pie Graph is a simple tool that is used for the evaluation of the projects. These graphs involve the following questions:

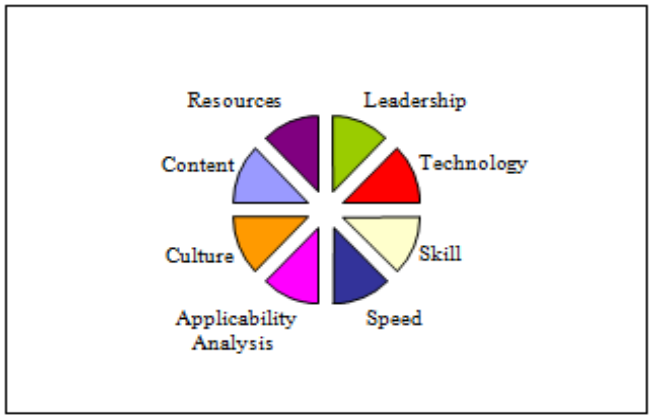

Fig.1 E-Learning Pie Graph

Applicability Analysis

How coherent are the aims and targets of the organization with your e-learning? How strong is your proof for achieving the aims and targets of the organization with eLearning? How well have you done the applicability analysis?

Culture

What is the appropriate culture for e-learning? Does you organization have this culture? If not, are you trying to attain something that is necessary for you?

Content Quality

Is the knowledge provided within e-learning appropriate to the student's needs? Is the amount of knowledge sufficient? Is this educationally meaningful?

Resources

Are the required financial resources ready for e-learning? If not, could more financial resources be found?

Speed

Could your e-learning materials address the changes rapidly? Would it be able to transfer the new knowledge at the required speed? Have you been trying to address your need to increase you capacity to move faster?

Skill

Does your group have the required levels of skills for applying e-learning? If not, have you been trying to train them within this project?

Technological Change

Could your organization address the improvements in the e-learning technology? Or, are you limited with the current information technology structure, security or compatibility problems? Have you tried to overcome these problems?

Learner-Content interaction in E-Learning

Within the designing process of teaching, it is an important step to organize the interaction and communication opportunities. Interaction is an important factor especially in Open University where students, teachers and teaching resources are away from each other in terms of time and place. Learning-based interaction mainly has three types. These are learner-content, learner-teacher and learner-learner interactions. Another accepted interaction type is the learner-interface interaction. Learner-interface interaction emphasizes the learners' interaction with technology whereas the learner-content interaction focuses on a pedagogical interaction. At Open University system, since learner-teacher and learner-learner interaction is limited within distance learning, learner-content interaction has a critical importance in reaching the learning targets.

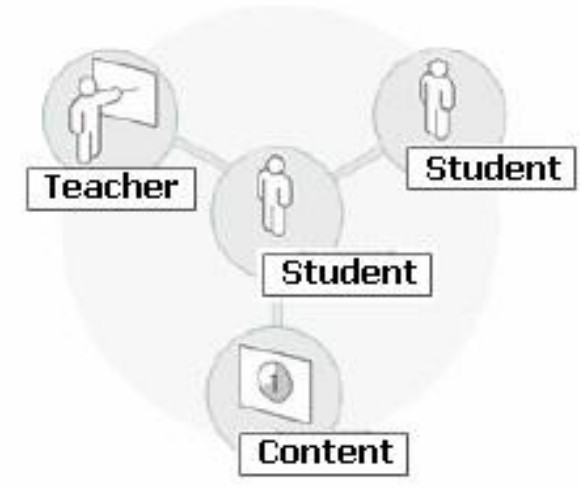

Fig.2 Types of Interaction in Learning Environments

Suggestions for E-Learning applications

When e-learning programs are administered as a support

or alternative for the traditional learning methods, the

learning process becomes more consistent as well as the learnt knowledge. Although the infrastructure expenses for e-learning are high, the long-term education and service quality are more satisfactory. The equipment for this program should be well designed. The design team should first determine the target audience accurately and consider many aspects such as the type of the education and media.

The correct choice in the equipment and communication type to be utilized would contribute to the more effective and productive use of time as well as reducing the expenses for communication and investment. On the other hand, the approach of the government towards e-learning, the awareness created in the society and socioeconomically statuses are among the factors that speed up the e-learning process. Such contributions to education could also reflect on the development of technological infrastructure of the country.

Establishment of virtual labs provides the chance to follow the developments in education in the world, especially for the institutions, which are financially unavailable to purchase lab equipment. Therefore, a competitive environment is created in education, which leads to sustainable development. With e-learning environments, students could continue the teacher-learner relationship from different places at different times. E-learning terminates the limitation of time and place while providing learning environments with lower expenses. In learning process, the relationship between teacher, learner and peers has great importance. Individual learning is also important, however, the efficiency of learning together could not be avoided.

Achievement depends on support and individuals need assistance in learning topics. Therefore, teachers of e-learning programs need to have a serious in-service training; because, many e-learning programs require mutual interaction via technological tools. The word “electronic” as a prefix for e-learning, does not only mean that learning occurs with technological tools but also requires the awareness in developing technologies.

So, teachers of e-learning programs need to be trained in information technologies and Internet in order to gather with their students in virtual classrooms. Additionally, they have to have the ability to administer all applications successfully and to follow the developments in pioneer countries in e-learning and distance learning.

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