E-Learning Applications in Open Education Faculty of Anadolu University

Dr. M. Emin Mutlu
Open Education Faculty of Anadolu University

Abstract

Internet-based self tests, drill & practices and tutorials are commonly produced for the students at the Open Education System in Anadolu University. The Open Education System is a candidate as the biggest institution in Turkey that performs the publishing of educational content on the Internet when the target audience is considered as a main factor. In this study, the e-learning applications in the Open Education System are evaluated and also discussed the position of the Open Education System by focusing on e-learning future, especially for Turkey.

Key words: e-learning, open education, distance education.

Introduction

Open Education System is an approach to target generally to serve educational services to people who cannot train in traditional educational institutions. In Turkey, there are over one million students in the Open Elementary[1], Open High School[2] and Anadolu University Open Education System[3] in the 2003-2004 school year.

There are various reasons for the students to enroll any open education system in Turkey: 1) having a job, 2) being elder age, 3) having to do military services (for men), 4) being physically handicapped, and 5) being in the prison. These rationales do not allow students attending traditional classes generally. Besides, homemakers who want to complete their educations; people who have a job, but want to get educational services in different subject area; people who live in out of Turkey choose open education system as well. Open Education provide equal educational rights to all these Turkish people.

Distance education is one of the most well-known methods of Open Education, because students who attend an open education system have limited opportunities to be in traditional education. Distance education was delivered via letter and newspaper many centuries ago, but in this century the new technologies such as radio, TV, cinema, etc, are used in this system. TV made open education system spread out the world. In the 1980s, many countries established their own open education systems, based on the English Open Education founded in the 1960s, and used mostly TV to deliver the courses. The Open Education Faculty was established in the 1982-1983 school year, Open Education High School was founded in the 1992-1993 academic year, Open Education elementary School was established in the 1998-1999 school year in Turkey,

The Open Education System of Anadolu University, founded in 1982 that 29K students enrolled to this system, is one of the mega universities in world, because has over 850K

---

[1] http://egitek.meb.gov.tr/aok/aio/tanitim.html

[2] http://egitek.meb.gov.tr/aok/aol/istatistik/OgrencilikDurumu.html

[3] http://www.yok.gov.tr/istatistikler/istatistikler.htm

students today. Sir John Daniel, one of the English open education rectors, calls the university as a Mega University if it has over 100K enrolled students.

Textbooks are the main teaching materials, which make students learn themselves, in open education. Textbooks written by the editors and writers from the many universities are published 5 millions each year, and then sent to students.

TV programs are produced based on the units of the courses, and the main purpose of these textbooks is to support students to learn themselves. For this reason, over 1000 TV approximately twenty-minutes programs are produced each year, and delivered by TRT channels. In the 60 centers, academic advising services are provided face-to-face educational opportunities for the distance students in evenings and at the weekends. 600 professors from the different universities charge for this activity.

The bureau services are given at the 80 centers in Turkey, NCTR and Köln/Germany. The students can enroll the open education system, get educational services and get their diplomas via these bureaus. The students can take their exams in all cities of Turkey, NCTR and the eight countries in Europe three times in a year, and then all exams are evaluated by the exam center in Anadolu University. Each exam has four sessions in two days, and is held 60K saloons. Nearly 190K staff charge in each exam. For these exams, over accredited 20K questions to evaluate the students are written by the Test Center of Open Education Faculty.

New technologies, such as videoconferences, computers, the Internet, etc., provide important opportunities to students and professors in open education. The Computer Based Education Center established at the end of the1980s designs and implements various e-learning applications in the open education system of Anadolu University. The main applications of this center are: 1) Computer based academic advising centers, 2) multimedia drill and practice software, 3) Internet-based trial exams, 4) Internet-based information management program, and 5) Internet-based drill and practice software.

Computer Based Education Center (1989-1990)

The Computer Based Education Center of Open Education Faculty was founded to develop educational software and do researches on this area in the 1989-1990 year. Today, totally 40 (20 full time and 20 part time) designers work in this center, and nearly 400-500 units multimedia course software are produced for labs, CD-ROMs and the Internet. There are digital video labs and audio studios to produce multimedia software in this center. In the production process, both its own staff and the various people from other centers in Anadolu University charge to animation and sound the multimedia. The produced course software is delivered on the Internet via the server park of CBE Center.

Computer Labs and CBE Software (1993-1994)

E-learning applications in Open Education were started to produce computer-based education software and service the distance students from different cities via the established computer labs in 1993. In this project, the new computer labs were founded in the 15 different cities. By taking appointment, students can interact with the multimedia environment to study their courses in these labs. Today, these labs are transformed the Internet cafes and the students can use these centers to access the e-learning applications in the Internet (Figure 1).

Figure 1. The Computer Based Academic Advising

Internet Based Trial Exams (1999-2000)

The Internet-based education service of the open education system was started with the trial exams in the 1999-2000. The students can take the trial exams on the Internet to learn their learning levels with this application before the exams. Over 300K students have taken the 13 million trial exams on the Internet so far. Internet-based trial exams cover nearly all courses in the open education system, and are supported by the rich question bank. The students can take the trial exams randomly from the question bank. It is given specific time to the students to complete the trial exams and at the end of the session, it is given an evaluation report to them. The students taking many trial exams can have information about their learning levels and the problematic units for them (Figure 2).

Figure 2. Internet Based Trial Exams

Multimedia CD-ROMs (2000-2001)

At the beginning of the 1990s, the distance education students could interact with educational technologies via the labs founded in the different cities that it was only solution for them. Having own her/his own computer at the end of the 1990s had increased obviously among the open education students. By taking of this improvement, open education multimedia course software was produced with coming together e-textbooks copies and the digital videos of TV programs on the CD-ROMs. In the 2000-2001 school year, the 250K copies of this course software were produced and delivered with the textbooks to the students. The following years, the produced CD-ROMs were installed the computers in the labs to serve students.

The most important feature of the open education multimedia software can integrate different learning environment, such as textbooks, TV programs, drill and practice software, trial exams, etc. that were produced the different team and delivered students at the different times, together. Except from the face-to-face academic advising courses, it is observed that the CD-ROMs presented all educational media integrally improve student learning better. While studying with CD-ROMs, the students can follow the distance education instruction to continue her/his studies effectively, to follow textbooks, TV programs, trial exams, drill and practices software accordingly and to evaluate their learning via trial exams.

With TV programs in the CD-ROMs, students do not have to watch TV at the determined times and they have find chances to watch them a lot of times when they want (Figure 3).

Şekil 3. An Example of Multimedia CD-ROMs
-The Ataturk's Principles and Revaluation History -.

Information Management Program (2001-2002)

After Bilgi University and METU Informatics Online Programs were founded to serve educational services, Anadolu University had new attempts to found the Internet-based programs. Information Management Program is the first application of these efforts.

Information Management Program is the program to train the middle human resources who have advanced experiences with computers. The main goal of this program is to produce the effective solutions for the knowledge-based problems in the corporations, and also to improve collaboration skills in bureau applications to increase effectiveness, learn how to improve the Internet-based enterprise communications, to become experts on popular application software, and to learn Internet-based administration and enterprise.

This program is different from other open education programs. In the 2001-2002 school year, the students based on the scores of their OSS exam could enrolled the program and the first graduates were completed the program in the 2002-2003 academic year. The program, like other OEF programs, serves distance education applications, but the difference of the program is that the courses are delivered on the Internet. At the same time, with West Europe Program, this program gives opportunity to Turkish people who live in Europe.

Information Management Program is a two-year program and has 16 courses. The main topic of the first year is **Business Experiences**. The students in this class play different roles in a virtual company, and they can gain experiences to find new solutions for knowledge-based problems in companies via numerous applications, and transfer their knowledge to similar situations.

The main purpose of the second class is **team working**. In this class, students are divided in groups, and each group uses its own portal, does all assignments in the group, develops comprehensive Intranet applications and gain new skills to use modern software in enterprise knowledge management.

The courses delivered on the Internet have 25 units. At the beginning of the school year, each unit is delivered on the Internet weekly, and is published at the end of the exams. The content delivered on the Internet has two main parts: 1) **Subjects** (teaching software of the course), and 2) **Applications** (gain skills on real life problems). All courses having applications in the first and second classes have the application parts. In this section, a virtual business, called as Anadolu Yayincilik AS, is provided, and each student is one of the workers of this virtual company. Students get various problems and roles related with this company, and try to solve these problems by playing their roles. Therefore, each students solves the problems, which they can meet in real companies and real life, gain experiences on business, and meet their needs on works by **role playing education**.

In Information Management program, besides the course contents on the Internet, the educational materials, such as supplementary textbooks, licensed application software, application videos, etc. are sent to students (Figure 4).
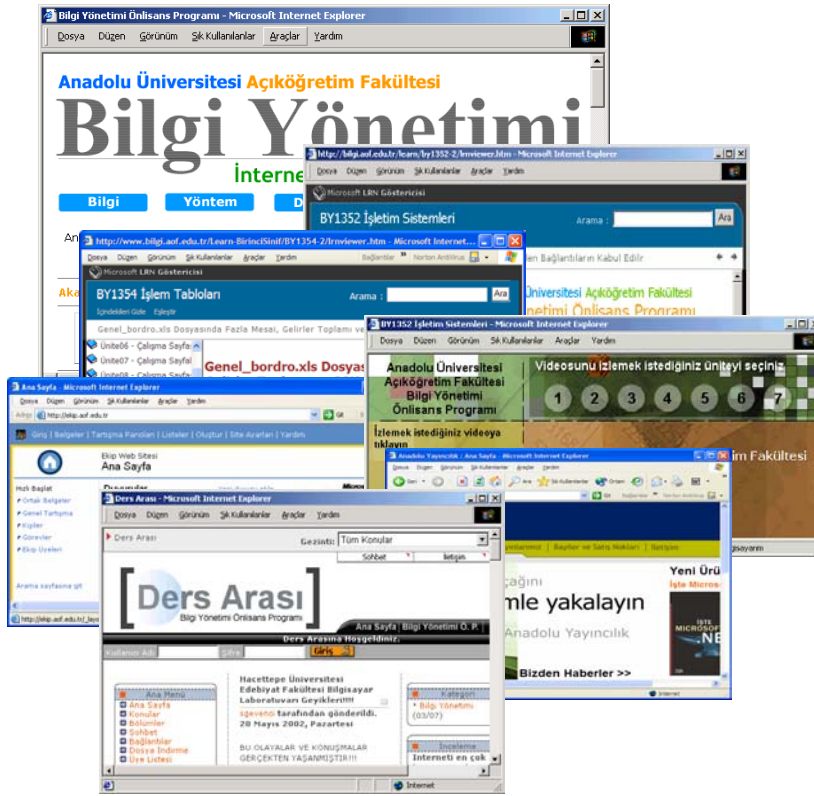
Figure 4. The Components of a Course in the Information Management Program

Various numbers of academic staff provide academic advising services to students. This service is given for each course five days in a week. Academic advisers, besides, evaluate individual assignments and group projects of students given each week.

For each course, one mid-term, one final and one make-up exam are held at the eleven centers in Turkey, in Germany and Switzerland. Moreover, the content providers in this program meet students in person to get their opinions before the exams.

Internet-Based Drill & Pratices Software (2002-2003)

Drill and practices software with textbooks and TV programs delivered on the CD-ROMs has some limitations. Because of the number of enrolled students, the problems are financial and time problems. The financing of the CD-ROMs to produce them in a short time creates new problems to accomplish the project plan. For this reason, the Internet-based drill and practice software project was founded in Open education Faculty by the computer based education center in the 2002-2003 school year.

With Internet based drill and practice software, the main purpose is to create an effective and efficient learning environment for the students on the Internet. Students can study their courses by accessing interactive multimedia software on the Internet easily. These are the subsections in Internet based drill and practice software: 1) **questions** (multiple-choice tests with the correct answer), 2) **examples** (ill-structured problems provided with cases related with subject), 3) **tests** (multiple-choice tests with no answers), and 4) **subject** (summary of the content) (Figure 5).
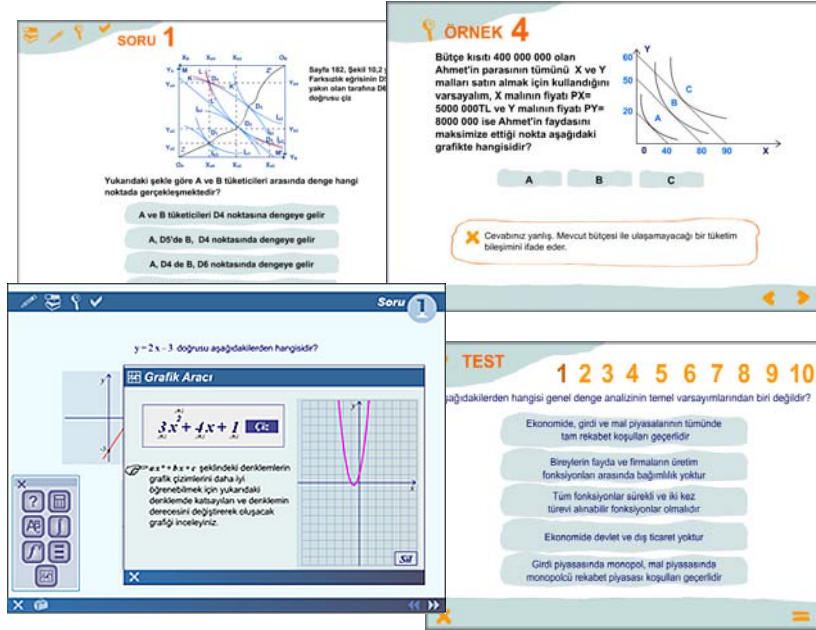
Figure 5. An Example on Internet-Based Drill and Practices Software

Internet based drill and practice software is designed with the cutting-edge technologies and industrial quality standards. In the year 2003, 60 content experts and 40 designers collaborate together to develop this software. It is expected that more content experts and designers will charge the project in 2004.

The Internet based drill and practice software project of the open education system of Anadolu University is the biggest elearning project in Turkey in terms of the quantity of the provided contents. In the Table 1, it is given the percentage of Internet-based courses of some departments in the open education system. For example, 35% of the courses of Business Faculty Business Department are delivered on the Internet in this school year. It is planning to deliver 78% of the courses in this program will be delivered on the Internet.

Table 1. The Percentage of Some Internet-Based Courses of Open Education System

Faculty	Number of Students	2003-2004 Verified	2004-2005 Planning
Business Faculty Business Department	237.179	%35	%78
Business Faculty Economic Department	45.887	%28	%60
Economic Faculty Public Administration De.	101.378	%28	%71
Economic Faculty Financing Department	18.492	%28	%60
Economic Faculty Work Eco. & Ind. Rl.	17.153	%28	%64
Accounting Program	23.396	%31	%75
Local Administrations Program	4.623	%31	%68
Banking and Insurance	10.069	%37	%56
Health Institution Business	13.826	%37	%56
Truism and Business	10.113	%31	%50
Information Program	202	%87	%87

In also, the Internet based drill and practice software project of the open education system of Anadolu University is the biggest elearning project in Turkey in terms of targeting and reaching numbers of students. In Table 2, it is given the target audiences of multimedia course software delivered on the Internet and the percentage of students and numbers of courses for different years.

Table 2. The Target Audiences of Internet Based Courses of Open Education System

School Year	Target Audience (Student – Number of Course)	Total Student – Percentage of Number of Course (2003)
2003-2004 (Verified)	1.447.000	%33
2004-2005 Planning	3.153.000	%72
2005-2006 Planning	3.860.000	%88

It is expected that the Internet based drill and practice software changes the visions of open education system. Open education was known as TV education in 1982, but after Internet based drill and practice software is delivered on the Internet, it is expected that this system will be called as education with the Internet.

Textbooks and TV Programs on the Internet (2003-2004)

In the 2003-2004 school year, the textbooks and TV programs are delivered on the Internet. Therefore, the students can easily access the textbooks and TV programs. Students can access the courses from their works or Internet cafes, and also have a chance to watch TV programs, study with multimedia software, test themselves via trial exams, and examine textbooks.
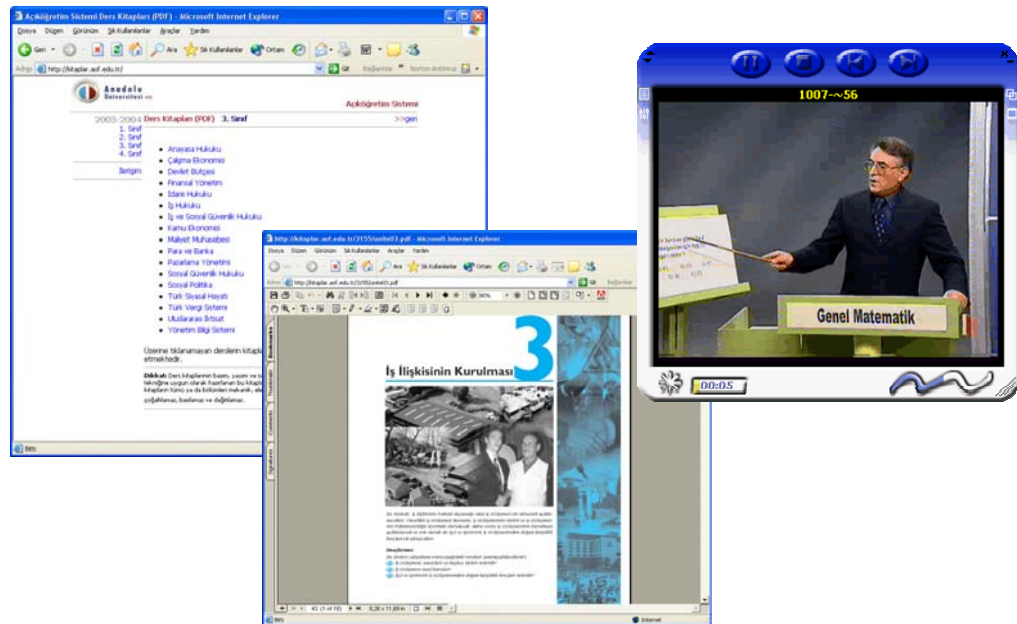

Figure 6. Textbooks and TV Programs

E-MBA Program (2004-2005)

The e-MBA Program is the first and unique distance education master program in Turkey. This program is implemented in Business Administration based on the agreement between Anadolu University and the State University of New York. Students can get dual diplomas after completing their programs. The preparing steps for this are almost done, and the first students will be enrolled the program in the 2004-2005 school year.

The main target of Anadolu-SUNY, ESC e-MBA program is to globally educate students about business administration without time and place limitations.

The Investments for the Internet Substructure

There is a huge demand to access the trail exams, drill and practices software, textbooks and TV programs delivered on the Internet, especially before the exams. The computer based education center was completed all investments for the Internet substructure to meet this demand effectively. These services are delivered via three big server having 30 processors. For this reason, it is used 32 Mbit bandwidths on the Ulaknet and 4 Mbit on TT-NET. It is planning to reach 90 % of the target audience of Internet-based education of Anadolu University at the end of the year 2006. In this case, over one million students will be using the Internet as an educational environment by the time.

Conclusion

The portion of open education in total education demand of Turkish education system is gradually increased. Besides, the needs, such as life long learning, in-service education, etc., make this demand increase more. Individual learning is the key concept to use technology (elearning). For this reason, from elementary education to higher education, it is important to support students in the distance education system with technology. Anadolu University provides new educational technology environments for the students in distance education. While TV is the most important learning setting for Anadolu University in the first ten years, computer based technologies is the most dominant learning environments at the last ten years. The Internet will be the main teaching setting in the coming ten years in Anadolu University, because of Internet based trial exams, Information Management Program and Internet based drill and practice software.

References

Mutlu, M. E., Öztürk, C., Özöğüt, Ö., Yılmaz, R. and Çetinöz, N., "Elearning in Open Education", the **20. national Information Conference**, Harbiye Askeri Musem-Istanbul, 2-5 September 2003. Available online: (http://www.bilgi.aof.edu.tr/yayinlar/2003/Acikogretimde%20e-Ogrenme.pdf)

Mutlu, M. E., Özöğüt, Ö. and Çetinöz, N., "Design of The Internet-based Drill & Practice of Open Education –General Mathematics", **III. International Educational Technologies Symposium and Fair**, East Mediterranean University, NCTR, 28-30 May 2003. Available online: (http://www.tojet.sakarya.edu.tr/current%20articles/mutlu.htm)

Mutlu, M. Emin, "Information Management Associate Degree Program: The First Internet-Based Distance Education Experience in Turkey", **The Eleventh Annual Distance Education Conference**, Texas A&M University, Houston-Texas, January 20-23, 2004. Available online: (http://www.cdlr.tamu.edu/dec_2004_proceedings/Mutlu.pdf)