

# The Open Education System, Anadolu University, Turkey: e-transformation in a mega-university

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Anadolu University in Turkey is one of the world's largest and least known mega-universities. Well over one million students in Turkey, the European Union and Northern Cyprus are enrolled in its Open Education System and yet few accounts of this dual-mode provider appear in the international literature. This article describes the evolution of the Anadolu Open Education System, explains how the Open Education Faculty operates and is now engaged in e-transformation, and considers the current and future issues confronting the institution.

**Keywords:** *eLearning; e-Transformation; Mega-university; Open education*

## Introduction

When Daniel (1996) researched the mega-universities—those distance education institutions with enrolments of over 100,000 that have so dramatically increased participation while markedly reducing costs—he was surprised to discover that Turkey had the greatest proportion of university students enrolled in distance education in the world. He was equally surprised to find that, in terms of degree-level students, the relatively unknown dual-mode Anadolu University ([www.anadolu.edu.tr](http://www.anadolu.edu.tr)) was one of the world's largest universities. Visiting the campus in Eskişehir in central Anatolia to study the Open Education System, he found that the Open Education Faculty (OEF) staff were acutely aware of global developments in distance learning and displaying leadership in technology development (Daniel, 1998). There are few accounts of this institution in the international literature and so the following article provides a unique account of how it has evolved, how its OEF operates and is now engaged in e-transformation, and the issues it now confronts.

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## The Anadolu Open Education System

As an emerging, western-oriented, secular nation with a free market economy, economic potential and candidacy for European Union membership and a relatively young population, Turkey needs a well-educated workforce. The Ministry of National Education (MEB, 2006) gives the current participation rates as 95.6% (primary), 85.2% (secondary) and 30.5% (tertiary). There is fierce competition for entry into the 68 public and 25 private universities. In 2006, 1,678,000 students competed for just over 405,000 places, excluding those in Anadolu University's Open Education System. The 93 universities try to accept as many students as possible but such high demand cannot be met through 'bricks and mortar' alone. Only distance learning can deliver the necessary access and cost-efficiencies Anadolu's Open Education System achieves on a massive scale.

Anadolu University was authorised as the national distance education provider by The Higher Education Act of 1981. Today, its Open Education System not only serves students in Turkey but Turkish communities in the European Union and Northern Cyprus. It has one of the world's largest student bodies. It currently has 24,300 on-campus students and almost 1,050,000 off-campus students enrolled in the Open Education System (see Table 1). Over 2000 of these are taking graduate programmes. The 336,000 distance students who enrolled in 2005/06 constitute over 40% of all university students and 99% of all distance education students in Turkey.

By the end of the 2004/05 academic year, 870,000 pre-bachelor and bachelor degree students had graduated through the Open Education System, and at the end of 2006 a further 110,000 graduates are expected.

The average Anadolu University distance learning student is in his/her mid-twenties; 65% of the students are metropolitan-based, 70% have jobs, 40% are married, 42% are female and 1.5% have some disability.

Anadolu University comprises 12 faculties, three of which—Open Education, Business Administration and Economics—constitute the Open Education System, 10 vocational schools, 6 graduate schools, 26 research centres and a State Conservatory of Music and Drama. It has 1811 full-time teaching staff.

Table 1. Open Education System enrollees: 2005/06

| Faculty                                       | Male    | Female  | Total     |
|---|---------|---------|-----------|
| Open Education Faculty                        | 187,050 | 140,461 | 327,511   |
| Two-year associate degree programmes          | 184,544 | 116,475 | 301,019   |
| Four-year bachelor degree programmes          | 2506    | 23,986  | 26,492    |
| Business Faculty                              | 182,832 | 134,761 | 317,593   |
| Economics Faculty                             | 140,237 | 88,448  | 228,685   |
| Total number of active students <sup>a</sup>  | 510,119 | 363,670 | 873,789   |
| Total number of passive students <sup>b</sup> | 101,382 | 72,232  | 173,614   |
| Total number of active + passive students     | 611,501 | 435,902 | 1,047,403 |

<sup>a</sup>Students registering for this year. <sup>b</sup>Students not registering for this year (failure to register in two consecutive years results in elimination from the records).

Table 2 lists the programmes offered through the Open Education System. The most popular of these are in Economics and Business.

Despite its title and a desire for open admissions, the Open Education System is required by the Higher Education Council to consider applicants' examination

Table 2. Open Education System Programmes

| Faculty                | Programme   | Degree                     | Programme availability <sup>a</sup> |        |
|------------------------|---|----------------------------|-------------------------------------|--------|
| Open Education Faculty | Accounting  | Two-year associate degree  | DP                                  |        |
|                        | Tourism and Hotel Management                            | Two-year associate degree  | DP, WE                              |        |
|                        | Banking and Insurance                                   | Two-year associate degree  | DP                                  |        |
|                        | Management of Health Institutions                       | Two-year associate degree  | DP                                  |        |
|                        | Public Relations  | Two-year associate degree  | DP, WE                              |        |
|                        | Social Sciences   | Two-year associate degree  | DP                                  |        |
|                        | Foreign Trade   | Two-year associate degree  | DP, WE                              |        |
|                        | Home Management   | Two-year associate degree  | DP                                  |        |
|                        | Office Management and Secretarial Training              | Two-year associate degree  | DP                                  |        |
|                        | Local Government  | Two-year associate degree  | DP                                  |        |
|                        | Retailing and Store Management                          | Two-year associate degree  | DP                                  |        |
|                        | Theology  | Two-year associate degree  | DP                                  |        |
|                        | Information Management (online)                         | Two-year associate degree  | DP, WE                              |        |
|                        | Nursing <sup>a</sup>                                    | Two-year associate degree  | SP                                  |        |
|                        | Midwifery <sup>a</sup>                                  | Two-year associate degree  | SP                                  |        |
|                        | Health Technician <sup>a</sup>                          | Two-year associate degree  | SP                                  |        |
|                        | Agriculture   | Two-year associate degree  | SP, DP                              |        |
|                        | Laboratory Assistant and Veterinary Laboratory Services | Two-year associate degree  | SP, DP                              |        |
|                        | English Language Teaching (blended learning)            | Four-year bachelors degree | SP, DP                              |        |
|                        | Pre-school Teaching                                     | Four-year bachelors degree | SP, DP                              |        |
|                        | Occupational Training for Police                        | Two-year associate degree  | SP                                  |        |
|                        | Occupational Training for Gendarmerie                   | Two-year associate degree  | SP                                  |        |
|                        | Occupational Training for Navy                          | Two-year associate degree  | SP                                  |        |
|                        | Occupational Training for Air Force                     | Two-year associate degree  | SP                                  |        |
|                        | Occupational Training for Army                          | Two-year associate degree  | SP                                  |        |
|                        | Business Faculty  | Business Administration    | Four-year bachelors degree          | DP, WE |
|                        | Economics Faculty                                       | Economics                  | Four-year bachelors degree          | DP, WE |
|                        | Labour Economics and Industrial Relations               | Two-year associate degree  | DP                                  |        |
|                        | Public Administration                                   | Two-year associate degree  | DP, WE                              |        |
|                        | Public Finance  | Two-year associate degree  | DP                                  |        |

DP, domestic programmes open to graduates of General High Schools and Vocational Technical High Schools in Turkey and Northern Cyprus; WE, West Europe programmes open to Turkish high school graduates in the European Union countries; SP, special occupational programmes contracted by the Turkish Government and military authorities. <sup>a</sup>No new students are being accepted onto these programmes.

grades. However, it is required to accept all applicants from Turkish and North Cyprus General High Schools and Vocational and Technical High Schools scoring  $\geq 160$  in the University Entrance Examination, as against the limited seats of the conventional universities. As in the conventional universities, examination requirements are waived for Vocational and Technical High School graduates continuing in the same fields of study. Pre-school Teaching applicants must be graduates of Vocational and Technical High Schools that teach childcare and development. English Language Teaching students must have scored  $\geq 185$  in the Central English Test. Similar regulations apply to the West European programmes and students taking the European version of the University Entrance Examination. There are no quotas for programmes other than those in English Language Teaching, Pre-School Teaching and Information Management.

The Special Programmes are contracted by the Turkish Ministry of Education (English language teaching), Ministry of Agriculture (agricultural and laboratory assistant and veterinary laboratory services), Ministry of the Interior (police and gendarmerie programmes) and the Turkish Army, Navy and Air Force.

Most Open Education System programmes commence in December–January. Mid-term examinations are held in late March–early April, final examinations in June and re-sits in early September.

### **Open Education Faculty**

The OEF offers academic, technical and administrative support for the Open Education System through its various centres and units.

The Distance Education Design Unit provides the instructional design for the 4.2 million copies of the 400 self-directed learning textbooks plus many test booklets and other course materials that are needed annually and that are co-developed by more than 750 writers and editors from Anadolu and other universities.

The Printing Unit designs and produces the textbooks using the latest computer technology and dispatches these to the OEF centres in Turkey, the European Union and Northern Cyprus for student collection upon registering. They are also increasingly made available as web-based PDF files (e-books).

The Television Centre produces or revises some 300 20-minute television programmes annually. Most of the 5000 banked programmes are studio-based and ‘talking head’, but there are also dramatisations, documentaries and computer animations. Throughout the year, these programmes are aired nationwide six hours a day on weekdays and three hours a day at weekends on the Turkish Radio and Television Corporation’s Channel 4 (TRT4). Prior to the mid-term and final examinations, these pre-recorded programmes are replaced with week-long live interactive programmes with toll-free telephone, fax and email access to help the students in Turkey prepare for their examinations.

Over 1100 programmes are also available as streaming video over the Internet and students may purchase videocassettes or VCD/DVDs at minimal cost. Copies are free for students in the European Union unable to receive TRT4.

The Centre also operates a 384-kbs videoconferencing system for teaching within Turkey and Northern Cyprus, and produces hundreds of radio programmes and a large number of audiobooks for the visually impaired, employing professional actors to read aloud the texts and self-tests.

The Computer-Based Learning Centre collaborates with subject experts in developing the multimedia courseware for CD-Rom or Internet distribution. It employs 12 servers with 34 processors, using 100-Mbit bandwidth on the National Academic Network (ULAK-NET) developed by the Scientific and Technological Research Institution of Turkey (TÜBİTAK) with the support of Turk Telekom (TT) (used mainly by students with computer access in public agencies or other universities) and 200-Mbit bandwidth on TT-NET (for other students accessing the multimedia materials).

The OEF provides administrative and advisory services through 88 centres across Turkey and offices in Cologne in Germany and Lefkosa in Northern Cyprus. About 250 full-time and part-time staff provide the administrative services, and over 600 locally recruited part-timers provide the tutoring services. Students register at these centres and may use their computer laboratories and attend evening or weekend classes (although fewer than 15% avail themselves of these services because of travel and time constraints). Students can also keep in touch through email, telephone and an online weekly newspaper, *AnadoluHaber*.

The OEF runs one of the world's largest university examination systems. Organised through the 88 Turkish centres and centres in Cologne, Stuttgart, Hamburg, Frankfurt, Munich, Berlin, Paris, Vienna, Berne, Brussels, The Hague and Northern Cyprus, it involves 245,000 supervisory and support personnel and 92,000 examination rooms in 5700 buildings. It enables about one million students to take 266 weekend mid-term and final examinations and re-sits—and to receive their examination results in less than three weeks.

Although there are critics of the system, with so many students the OEF has found no alternative but to use multiple-choice tests and computerised assessment and evaluation. The tests are developed at the Test Research Centre by teams of teachers; the question books and optically readable answer sheets are dispatched under strictest security to the examination centres and, on their return, the Computing Centre assesses the answer sheets while the Test Research Centre monitors the appropriateness and effectiveness of both the instruction and the questions.

## **Funding**

The Open Education System is fairly generously funded, with 76% of its income coming from the student fees and 24% from the state. In 1996, Daniel estimated that the Open Education System cost the government 2% of the higher education budget. Today, the state contribution per Open Education System student is 5% of that of a student at a conventional university. Bayrak and Kesim (2005) estimate that further investment in e-learning will yield further cost benefits.

For most of the courses, the annual tuition fee is about US\$250. Repeating students pay around US\$200. Courses involving practical work cost slightly more. The annual fees for the Information Management and English Language Teaching programmes are about US\$1000 and US\$600, respectively; the total for the e-MBA is US\$12,600, and the other online graduate programmes cost US\$5,000.

### **e-Transformation**

Like all distance teaching institutions in emerging economies, Anadolu University must balance technological benefits against equitable provision. e-Transformation can improve the infrastructure, provide richer and more interactive programmes and enhance learner support. But recent findings (DPT, 2006) show that only 13.9% of the Turkish population can access the Internet, and only two per cent can access broadband. Only 5.9% own computers with an Internet connection. The majority access the Internet at work (41.1%) or at Internet cafes (41.2%). Internet access is primarily in the urban and advantaged regions and 62% of the population still have no understanding of the Internet. The main reasons for the low adoption rates are the high cost of an Internet connection and a lack of basic Internet/computer skills. For those on the average monthly income of US\$300–500, US\$20 a month for a 512-kpbs digital subscriber line (ADSL) or US\$10 for 15 hours of dial-up is prohibitively costly. But, interestingly, students constitute the largest group (53.8%) using the Internet.

Turkey ranked 45th in the Economist Intelligence Unit's 2006 e-readiness Rankings ([http://graphics.eiu.com/files/ad\\_pdfs/2006Ereadiness\\_Ranking\\_WP.pdf](http://graphics.eiu.com/files/ad_pdfs/2006Ereadiness_Ranking_WP.pdf)). However, the imperatives of the knowledge economy, globalisation, candidacy for the European Union and Turkey's inclusion in the European Council's e-Europe Programme+Action Plan have led the government to initiate the Turkish e-transformation Project, designed to provide better, faster and more participative and transparent Information and Communications Technology public services. Universities, research organisations, libraries and documentation centres are linked through the high-speed ULAK-NET, and the rapid expansion of the Internet has led to student demand for online programmes and services. In 1999 The Council of Higher Education legislated for Turkish universities to move into e-learning. The Computer-Based Learning Centre had already been developing courseware for use in conjunction with the print materials, and Anadolu University responded readily to this opportunity.

The original intention was to install computer laboratories in all of the OEF centres but this proved to be too problematic and costly so the OEF is now setting its sights on supporting home ownership of computers, enhancing Internet connection and working with Turkish Telecom to increase the bandwidth and provide access for those in rural and underdeveloped regions of the country. Deploying WiMax technology is part of this project.

The pursuit of these goals is seen as important because it is shown that, regardless of region, age or gender, Open Education System students making regular and sustained use of e-learning perform better than those who do not make use of the



technology (Mutlu *et al.*, 2004). However, it is still the case that many students lack the requisite computing and self-study skills, quiet, private environments for learning, and confidence to use computers for their learning, that server and bandwidth problems occur during peak hours, and that many faculties are still unfamiliar with technology-based teaching and learning. So there are many issues to be addressed as well as the cell phone, PDA and other m-learning options.

The OEF has also embarked on providing Internet-based multimedia drill and practice materials to enable learners to test and apply their learning from their textbooks or e-books. Front-end analyses showed that many students required and requested this service for their examinations preparation. To date, 738 e-practice units have been developed for 50 courses and these are heavily used by the students.

The Computer-Based Learning Centre has also developed a self-test tool by which students can assess their examination readiness in any subject of their choosing. This recognises them every time they log on and presents them with a different set of questions. From 1999 onwards, the OEF moved to providing examinations online. To date, more than 500,000 students have taken 30 million examinations online, using IDs and passwords to access the 11,216 items for 124 courses in the question bank.

To meet student demand for online enrolment, course delivery, guidance and support, the OEF and Computer-Based Learning Centre are developing an e-Learning Portal for all of the previously standalone e-books, e-television programmes, e-exams, e-practice, e-tutoring, e-audiobooks and e-support systems. The target of e-transforming 90% of the course content is well on the way to being achieved, and 211 e-books have been produced for 2724 units and 1176 e-television programmes have been provided for 85 courses. The increasing use of e-books, e-administration, email, telephone, online FAQs and e-tutoring by course moderators are reducing the need for student attendance at the OEF centres. In 2005, about 200,000 or 20% of the students were able to access these Internet-based services, and since the Portal's launch in May 2005, 348,444 learners have logged on over eight million times and on occasion there can be about 10,000 learners accessing it simultaneously.

The OEF has developed two online programmes, the Information Management Programme and the English Language Teaching Programme, and has provided support for a number of online graduate programmes.

### *The Information Management Programme*

Launched in 2001 and designed for General High School and Vocational and Technical High School graduates with computing skills and an interest in pursuing careers in information management, this two-year associate degree programme was Anadolu University's and Turkey's first wholly online programme (Mutlu, 2004). Instruction is through Microsoft-Turkey textbooks and software and OEF-developed CD-based and Internet-based interactive multimedia courseware and e-facilitation. Entry is limited to 500 places a year, high levels of support are provided and, as a consequence, as indicated earlier, the fees are higher.

In Year 1, the students work through real-life examples, learning about operating systems, information management systems, desktop publishing, spreadsheets, multimedia, institutional communications and working collaboratively. Assessment is through assignments and examinations. In Year 2, the students collaborate in working for a fictitious publishing house and are assessed not only on their technical proficiency, but on their planning, management and interpersonal skills. Their online mentors are contactable by email or telephone 16 hours a day, seven days a week, face-to-face tutoring is available at the OEF centres and there is scheduled conferencing four hours a day, five days a week (Aydin, 2005).

There are currently 474 active students in the Information Management Programme. It achieves higher pass rates than most Open Education System programmes and the students rate highly the content and online support (Mutlu, 2004). The Information Management Programme's success is attributed to the higher quality of the students, their paying higher fees and the attention paid to the instructional design and learner support. It is seen as a model for other e-learning programmes and a four-year information sciences degree programme is under consideration.

#### *The English Language Teaching Programme*

The introduction of eight-year compulsory primary education in 1998 and the consequent need for English language teaching from the fourth grade rather than the sixth grade created a need for 60,000 additional English teachers (Kose *et al.*, 2002). These could never be trained by conventional means and so in 2000 the Ministry of Education contracted the OEF and School of Foreign Languages to provide a four-year bachelor degree blended learning English Language Teaching Programme. The programme began in that same year with an initial enrolment of 2500 and produced its first graduates in 2004.

All instruction is in English. Years 1 and 2 comprise 10 hours a week of on-campus face-to-face language teaching and e-learning in education and computing. Years 3 and 4 are conducted almost entirely online, with studies including linguistics, semantics and English literature, teaching, assessment and uses of technology. Year 4 also includes school experience and a practicum. There are also on-campus summer schools for students needing additional support. Examination is by multiple-choice tests, essays, oral presentations and interviews.

The online components comprise course information, announcements, study units (content), chat, email (responses to student queries are guaranteed within 24 hours), discussions (one hour a day), students' homepages, self-tests, resources and links to other websites.

To achieve the large number of mentors needed to support these thousands of trainee teachers, a train-the-trainers approach was adopted. One hundred outstanding English teachers were appointed as coordinators, given intensive on-campus training and then provided with videos, PowerPoint presentations and other materials plus online support to train other teachers in their role as mentors.



## **Online Graduate Programs**

The Anadolu-ESC, SUNY e-MBA Program began in 2004 in response to demand for an online graduate programme to help Turkish leaders and managers operate in the competitive global business environment. It was co-developed/delivered by the Anadolu's Faculty of Economics and Administrative Sciences and the Graduate Studies Program of Empire State College of The State University of New York (SUNY) and offers a dual diploma and dual MBA. Both institutions were already offering MBAs (on-campus in the case of Anadolu and off-campus in the case of SUNY) so the collaborative course/courseware development was able to be achieved in just a few months, largely online.

The Anadolu e-Hospitality Management masters' programme aims to produce well-qualified managers in the hospitality and tourism sector.

The Teaching Developmentally Disabled Children online M.A. programme is designed for teachers who work in schools and centres and lack the knowledge and skills to teach developmentally disabled children.

These programmes go some way to satisfying the demand for graduate education, but organisational, legal, staffing and cost factors and the economic circumstances of the learners still prevent Anadolu University from responding appropriately to these and other professional development needs (Ataç & Mutlu, 2006).

The computer personnel responsible for these programmes have also developed a compulsory e-learning course in ICT for all beginning students and made this freely available to other members of the European Association of Distance Teaching Universities (EADTU).

## **Issues**

The Open Education System is addressing the massive educational, economic and logistical challenges of serving enormous numbers of students in Turkey, Europe and Northern Cyprus. It is also playing an important role in Turkish higher education by signalling the imminence of change. Working in accord with Laurillard's (2002) proposals for media in teaching and learning, it employs a mix of narrative media (print, radio, television, computer and Internet presentation), interactive media (web and interactive television), adaptive media (simulations, role-plays and virtual environments), communicative media (audioconferencing, videoconferencing, email, chat and online conferencing) and productive media (students creating their own work in text and other forms).

Aydin *et al.* (2006) observe that while in common with many institutions Anadolu University is being pressurised to move into e-learning, most of its courses will probably continue to be 'hybrid', combining text-based, online, multimedia and face-to-face education in ways that provide quality learning for the largest number of students at the lowest cost. The OEF and Computer-Based Learning Centre are currently integrating computer-supported learning into traditional correspondence education. In the future, they intend to be more concerned with personalised and collaborative learning.

Anadolu University is also moving its student services online. Learners can now print out their examination entrance documents anywhere at any time and find their grades on OEF websites, and by the end of 2006 will be able to register online. These developments provide greater convenience and flexibility for the learners and also decrease the workloads of the OEF administrative officers.

Anadolu University has excellent technology and infrastructure for this work but its e-transformation process still lacks coherent envisioning, strategic planning, quality assurance, faculty development and reflective practice.

### *Strategic planning and management*

Anadolu University and the OEF realise that they have reached a stage where they need to re-examine trends, needs, obligations and their strengths, advantages and opportunities, re-define their strategic goals and priorities, re-align their management and quality assurance procedures and resources accordingly, and mainstream those innovations that are shown to be working well. They also need to guard against becoming over-extended and/or failing to achieve impact and leverage in politically and educationally significant areas. The Higher Education Council (HEC) has suggested that Anadolu University should increase the range of courses and offer programmes in technical fields, science and medicine. At the same time, the Turkish branches of large international firms are asking the OEF to provide nationwide online training for their employees. In August 2006, Ford established an e-learning portal to train its service personnel using materials designed and produced by the OEF. Anadolu University also needs to consider the threats posed by international and for-profit online providers and the other socio-economic, political and technological changes that undoubtedly lie ahead for the country.

Yilmaz (2005) suggests that universities with an e-transformation mission need to market themselves as providing easily accessed, well-designed, learner-centred, affordable, efficient and flexible services, sound return-on-investment, greater learner satisfaction and higher retention. Özkul (2005) observes that achieving this at Anadolu University will require significant changes in structures and work practices, and Ulukan (2005) suggests that the requisite shifts in institutional values and staff attitudes and behaviours will require multiple points of inertia and resistance to be addressed systemically.

Anadolu University's original positioning as the national centre for distance learning in Turkey was attributable to the vision and leadership of its inaugural Rector in the 1970s and 1980s. The new senior management team needs to exercise similar prescience and leadership and to encourage all faculties and staff to align their goals and activities to a new vision. The recent *Higher Education Strategy for Turkey* (HEC, 2006) stresses the need for just this form of review and envisioning. While at this stage the report is a draft open to comment, it flags some important issues. It observes that the higher education age group will decline but that the participation rate needs to be increased to match that of other OECD countries; that there is need for more postgraduate study and lifelong learning opportunities; that the university system

needs to be more open and flexible; that management, quality assurance measures and resource efficiency need to be improved; and that there is a call for more student-centred approaches, greater use of e-learning and increased research activity and international publication. It also suggests that while the participation rate should rise to 65% by 2025, the proportion studying through open learning should be progressively reduced from 35% to 11.2%, which it claims is the norm for developed countries.

Anadolu University is already taking steps to respond to this changing environment. A Strategic Planning Task Force representative of the different departments of the university has been charged with developing a strategic plan by the end of the first quarter of 2007. In another major step development, a new Open and Distance Learning Research and Development Office (ARGE) has been established to undertake and commission qualitative and quantitative research studies that will help administrators and faculty improve their services and gain better national and international recognition of the university. On the developmental side, ARGE will encourage and support new forms of online programmes, especially in the technical fields, using advanced technologies and more flexible and personalised learning systems. These e-certificate programmes will be so designed as to remove the barriers to continuing professional development, including distance, time, qualifications and cost. An initial 11 three-month, twice-yearly e-certificate programmes will be on offer in Spring 2007 and the number of programmes will then be progressively increased.

### *Equity*

Aydin *et al.* (2006) observe that with the heavy demand for higher education and limited number of universities, distance learning in Turkey is a necessity rather than a convenience. One-half of Turkey's people live in rural communities and engage in agriculture-related occupations, and one-half live in or near urban centres and work in the manufacturing or service industries. The result is a noticeable gulf between rich and poor and those living in the west and east of the country. This is reflected in the fact that, as noted earlier, about two-thirds of the Open Education System students are metropolitan based. There is, therefore, still a great need to find ways of achieving higher participation in the remote, rural and underdeveloped regions.

### *Quality*

Like all distance teaching institutions, Anadolu University aims for the trifecta of equity, cost and quality. Equity is vigorously pursued and there are considerable cost savings to the government, students and institution. But Aydin *et al.* (2006) observe that the Open Education System struggles to achieve quality serving such large numbers of students and that there are frequent criticisms of the use of multiple-choice in examinations and the sense of isolation experienced by many students. Askar (2005) finds that Turkish learners and faculty in conventional institutions regard distance education as a last-resort option. However, the majority of the

students are working adults, have family commitments and would not otherwise gain access to a university, so open education is their only alternative and they willingly enrol in Anadolu University's open learning programmes. On the other hand, it must be acknowledged that Open Education System attrition rates are high. About 40% of the students drop out during their first two years of study, and only 49.5% of the associate degree students and 25.4% of the bachelor degree students graduate. However, it is important to note that 70% of these students are coping with competing work and family demands, that many enrol to defer compulsory military service and then find they are unsuited to tertiary study, and that many come from backgrounds without any tradition of tertiary study or support systems. Also, as Murphy (1991) observes, in traditional Turkish education the teachers' role has been to interpret the texts and the students' role to memorise the teachers' words, which is hardly the best preparation for self-managed, socio-constructivist learning. It is also the case that most students simply want a qualification to gain employment and have little interest in education *per se*. Some even attempt shortcuts by buying pirated crammers that fail to prepare them properly for the examinations. Researching the self-efficacy beliefs, self-management abilities and achievements of these distance learning students, Ergul (2004) concludes that it is important for instructional designers and tutors to provide more extrinsic motivation and feedback, something that is becoming more achievable now that increasing numbers of students are on the Internet and able to join online learning communities.

There is no national quality assurance system in Turkish higher education, and the Open Education System has a monopoly in Turkish distance learning, so two of the principal justifications for quality assurance are lacking—a requirement to be accountable for standards and a competitive environment. Parity of esteem has been slow to come to Anadolu. Some employers still express concern about the lower entry standards, the commitment of the students, the quality of the courses and the use of multiple-choice tests. So quality assurance must rank higher on the agenda and the university needs to benchmark its processes and outcomes against those of the conventional Turkish universities. While such quality assurance mechanisms have yet to be put in place, it is important to note that improvements in the Open Education System, the resources and outputs of the OEF and the technology are ongoing; that Anadolu University's distance and e-learning activities have a considerable impact on Turkish higher education and public acceptance of technology-based delivery (Gursoy, 2005); and that as Daniel (1996) observed, the Open Education System's books and multimedia materials are not only used by Anadolu University students, but students at the other Turkish universities.

### *Professional development*

The staff engaged in e-transformation are intrinsically motivated and demonstrate a professional 'can-do' approach. But they are largely self-taught, under pressure and dependent upon casual staff and interns. Aydin (2005) observes that the most serious challenge to extending and enhancing e-learning at Anadolu is the shortage of staff

knowledgeable and skilled in multimedia and online learning. Aydin *et al.* (2006) comment on the lack of qualified instructional designers in Turkey, and Aydin (2003) points to the fact that the country has no tradition of professional development for university teachers. Furthermore, as the HEC (2006) acknowledges, Turkish faculty have extremely heavy workloads.

Odabasi (2000, 2003) discovered that most Anadolu teaching staff looked favourably upon new technology and recognised the need for staff development, but they only saw this happening if granted appropriate time release. To try to resolve the problem, Anadolu University's Educational Communication and Technology Research Centre has trialled online certificated staff development programmes. These have been well received but taken by relatively few staff because of the time involved (Kabakci & Odabasi, 2004). Aydin (2003) suggests that the answer to developing online and multimedia teaching competencies may lie in providing initial training through blended learning and then providing just-in-time support for those experiencing difficulty with development and delivery. Tasci (2006) argues that professional development should not only be flexible and practice what is being preached, but team-based to ensure a shared vision and culture of collaborative learning.

### *Research and diffusion*

A small but growing number of staff are conducting research in distance and e-learning and disseminating their findings through publications and conferences. The OEF has encouraged this by establishing the international peer-reviewed quarterly *Turkish Online Journal of Distance Education (TOJDE)* (<http://tojde.anadolu.edu.tr>), and the university has also initiated international distance learning symposia, most recently in 2006 on the theme of lifelong learning (<http://www.aof.edu.tr/iodl2006/>). However, more research and evaluation are called for, and Özkul (2001) suggested that this might be best supported through a special unit. The establishment of the ARGE Office is an important development in this regard.

### **Conclusion**

Anadolu University has successfully provided distance education for Turkish people in Turkey, across Europe and in Northern Cyprus since the early 1980s. The size, diversity and distribution of the student body and associated technological, logistical, legal and political issues present enormous challenges to the Open Education System. Anadolu is now improving its educational products and services through e-transformation and by employing new instructional models in its undergraduate, graduate and e-certificate programmes. However, there are still many issues to consider; how to prepare the learners for self-managed, collaborative, technology-based learning; how to train faculty in the new technologies, methodologies and research practices; how to persuade politicians and administrators to write legislation and bills that will support open education; and how to improve the

technological infrastructure and services. Senior and middle management and the recently established Strategic Planning Task Force are committed to finding ways of resolving these issues.

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