E-learning in Type 1
Medical Universities of Iran

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ABSTRACT

Nowadays the Internet is the technological pedestal of organization in the information society and one of the main applications that the Internet offers is the Digital Library (DL). Each society, especially those that claim training of the public, predictably need implementation and endorsement these systems. The time of chalk and board is passed and the globalization and universal village demands a movement targeting to establish an information society. The university is said to be responsible for making "Human". In the era of information explosion, how can a university rely on a physical classroom, a tired teacher and some drowsy students listening to him? Internet "the sweet invention of man" is a bridge, between "slump" and "spurt". It is up to each authority in a university to design, employ, develop and evaluate a system embracing Internet, Multimedia, Network and so on to go parallel in modern era and to introduce the supreme system of E-learning in its program.

Of different aspects of E-learning including computer networks, multimedia, search engines, electronic libraries, distance learning, and all that (Piskurich, 2003), most of the type 1 medical universities of Iran exploit, some how or another, all or some of them. These universities including Tehran, Iran, Shahid Beheshti, Mashhad, Isfahan, Tabriz, Shiraz, Ahwaz, and Kerman, at present encompass a powerful link with their audiences regarding digital libraries, search engine and authentic data bases.

The present article is going to have a bird's eye view at various capacities of these universities in this regard.

Keywords: Digital Library, Iran, E-learning, medical universities, Internet, Multimedia, computer networks,

TEHRAN UNIVERSITY OF MEDICAL SCIENCES

Tehran University of Medical Sciences (TUMS, 2005) is the oldest and the most outstanding medical center in IRAN and has the largest Medical, Dental, Pharmacy, Rehabilitation, Allied Medical Sciences, Public Health, Nursing and Midwifery schools; 1300 academics in eight schools and research centers; over 13.000 students; trains more than 2.000 specialists in over 80 postgraduate programs including M.S., Ph.D., Fellowship and Residency; 12 research centers, 11 Educational and Health Research Centers in 10 provinces, 15 teaching hospitals, more than 40 libraries in the Schools, Research Centers, and Hospitals with a Central Library. The university has built up a comprehensive Digital Library (DL) covering more than 5000 Journals, 10 databases, smart ordering and searching and so on. DL is managed by the Central Library and Documents Center (CLDC) which is a part of Research Council of Tehran University of Medical Sciences (TUMS). This center prepares complete sources of information including print and electronic for all faculties, research centers, and hospitals of TUMS in total of 35

sub-libraries in TUMS. Some of the activities and features of the Central Library are as follows:

Databases

More than 15 valid databases provided by the most celebrated contributors in the world including: OVID, ACM, ACS, AIP, ASCE, ASME, BioMedCentral, Blackwell, British Library, CSA, EBSCO, HumanPress, npg, RSC, Thieme, WSPC are accessible to 5000 full text Journals and 500 electronic books. These Journals are arranged alphabetically, and most of them offer full text papers to registered users. It is worth mentioning that registration is free of charge for academic staff and PhD students and demand merely receiving a user name and password form the Computer Services Center. An authoritative system of searching and browsing is in attendance as well. This category facilitates access to almost %95 of all scientific Journals and data banks in the world. All communications to library facilities are performed through a local network of Internet system.

images.MD

images.MD, is a service provided by the university, each member of TUMS, has free access to full-sized, high quality images in step with the latest developments in medicine. By filling out a simple registration form, it is possible also to start a private image library, create PowerPoint® presentations of images in one's library, and order customized CD-ROMs of favorite slides. images.MD has over 50,000 medical images from more than 90 collections and 2,000 contributors.

IranMedex database

IranMedex database is added to the university DL in 2003, which including abstract and full text of papers issued in Journals printed by medical universities of Iran.

SmartDOC

This is a new online service at Central library that is available via TUMS network. It is called <u>SmartDOC</u> that stands for Smart Document access and Ordering Center.

Through this system every body can access easily and quickly to more than 3000 online medical Journals that cover all branches of medical sciences. It is noteworthy that most of the full text articles are provided at no cost and this service offers accessing those papers which are not available in the system. The user is charged not too much funds.

Virtual Private Network (VPN)

Geographical distribution of faculties & centers of TUMS had caused accessing problem to university digital library through online Internet. To solve this, the VPN plan was started as a prominent project cooperating with Telecommunication Company of Tehran Data Management in providing direct access facilities to all sublibraries by the fast optical fibber's lines.

Online Public Access Catalogue

Due to existence of specialty Journals in different sublibraries, an online catalogue has been produced. Any TUMS valid user can get access to a search database to find holding place of different print Journals in various sublibraries.

Smart Library Credit System

In this plan, all TUMS academic members and students can use all existed facilities from different sublibraries by a smart library credit card.

More than 300000 full text papers from electronically Journal category and about two million searches in different databases have been conducted in 2003 using Digital Library channel.

THE FACULTIES

Not mention the services offered by the Central Library, each school presents a well-planned system for its users. The major initiatives taken by diverse schools are:

> ➤ Blueprint and development a website for the Central Library of the School;
> ➤ Specification a private domain for registered clients to put their Curriculum Vita there. In addition each Department is allocated a specific fragment to mention its activities and past histories;
> ➤ institution of CD-ROM networking under LAN;
> ➤ construction of a CD-publishing capacity for PhD theses;
> ➤ Providing a variety of web-based services to the customers.

For example the School of Public Health and Institute of Public Health Research, by using the following data banks, gives services to the interested individuals:

1) MEDLINE: 1966-1999
2) POLTOX I: 1966-1996
3) POLTOX II: 1985-1996
4) CHEM-BANK MAY: from 1995
5) ENVIRONMENTAL LIBRARY: from 1994
6) IMMUNOLOGY & AIDS: 1985-1995
7) BIOLOGICAL ABSTRACTS: 1989-1996
8) WASTEINFO: 1970-1998

The general library system in this school includes all information concerning the library and helps researchers in finding the existing stock. Medical information center includes services for providing scientific papers. Through Internet, researchers can obtain their necessary information and pass their e-mail messages; the use of Internet is possible for the interested individuals all over the stations of the School Computer Network, in the building. Moreover, the Academic staffs are provided a possibility to connect to Internet at home and more than 9 telephone lines are engaging in this regard. This service is free of charge for users. More or less, the other faculties present the similar services for addicts and auspiciously all the systems are being up to dated on a regular basis.

Distance Learning Net (Dln) Program

The university also has set up an initiative DLN program from two years ago, but still requires time to be implemented and established agreeably. Some courses are taught in this direction, e.g. the unit of "Mother and Child Health" in the School of Nursing, "Pharmacology"; "Infertility in Man", "A Selection of Pediatric Medicine" and "Utility of Computer in Medical Sciences" in the School of Medicine; "Hospital Management and Organization" in the School of Allied Medical and so on. According to authorities, the result was reasonable. To persuade the students some awards such as Internet cards are presented. More to the point, the academic staff of Genetic, Bacteriology, Medical Physics, Immunology and Pharmacology have been instructed allowing for DLN so far.

Each teacher wishes to present his/her course using this system, is provided a specific form and a username and password. DLN system in TUMS not only encompasses the classic definition of online teaching but covers the following items:

- ➢ **Information Technology;**
- ➢ **Education;**
- ➢ **Communications;**
- ➢ **Cooperation;**
- ➢ **Knowledge Management;**
- ➢ **Support.**

The Education system of DLN consists of two sections: consecutively and simultaneously. The student after logging can exploit of different materials and assessment himself/herself using provided related questions.

SHAHID BEHESHTI UNIVERSITY OF MEDICAL SCIENCES

Shahid Beheshti University of Medical Sciences (SBUMS, 2005) controls six deputies, 8 Faculties, 12 Teaching Hospitals, 6 Non-teaching Hospitals and 7 District Health Centres. There is 1000 academic Staff in the university; of these, 16% are professors and associate professors and the remaining are assistant professors and lecturers. Currently, there are around 13000 students who are studying in various fields.

The Central Library of the university goes parallel with the digital activities in many aspects. The Resource section of the library provides links to Medical Information resources on the web. The Medical Databases section includes links to major providers of Medline search on the web. Links to various sites containing lists of free Journals available on the Internet are provided in the E-Journals section.

The Search center offers a handy list of famous search engines to search the web. Also available are lists of Dental and Medical libraries and library associations.

The central Library (http://www.sbmu.ac.ir/Library/index.htm) offers some audio Journals in the form of CD and Tape such as JOURNAL OF CLINICAL PSYCHIATRY and so on.

Distance Learning Net (DLN) program
Many academic members have passed a training course in this regard in the University and some teachers make use of this system to present their course(s).

IRAN UNIVERSITY OF MEDICAL SCIENCES

At present, Iran University of Medical Sciences and Health Services (Iums, 2005), being one of the largest medical and educational complexes in the country. The University operates six schools, two centers, two institutes, thirteen teaching and fifteen non-teaching hospitals.

In addition to the libraries at the different schools and hospitals of the university, the Central Library houses the richest collection in the area of medical, biomedical, health sciences, and basic medical sciences in the country. The library supports the research, teaching and medical services commitments of the university. The library was connected, by satellite, to the medical information centers in the world. Subsequently, the library was recognized as the East Mediterranean Medical Information Center by the World Health Organization (WHO).

The comprehensive collection of the library is backed up by the very latest developments in modern information storage handling and retrieval techniques. The bibliographic information of the above collections is stored in five databases, which are searchable from any workstation of the library network. Moreover, several large databases such as Medline, EMBASE, Biological Abstracts, Science Citation Index, and the like, on a networked CD-ROM system are accessible to library clients wishing to locate details of the recent literature.

The Faculty of Medicine library also is equipped with computer terminals connected to the Internet and students can use terminals in whole working time. There is also computer engineer on duty to answer any question or take care of technical problems.

In the Faculty of Management and Medical Information Science, the ERIC, ISA, LISA, and MEDLINE databases from 1966 are available on CD-ROM, and the system is accessible to all students and faculty members wishing to locate details of the recent literature. The other faculties present more or less similar activities.

ISFAHAN UNIVERSITY OF MEDICAL SCIENCES

Isfahan University of Medical Sciences (Mui, 2005) university has 7 schools, 7 Vice Chancellors, 6 Research Centers, 9 hospitals and two online Journals entitled: Research in Medical Science Journal and Iranian Journal of Medical Education.

The Central Library of the university has the following linkages:

Uptodate, MUI Resource Finder, Medical Images Slides, Books & Periodicals, Advanced Medline(ERL5), Advanced Medline Ovid, EBSCO Journals, EBM Reviews Full Text, Elsevier Science Full Text, Blackwell, Oxford Journals, Proquest Full Text, Ingenta.

The university schools encompass a satisfactory digital system of presenting information. The Library of the School of Public Health is connected to Internet and there are 35 databases covering different area of health which are accessible easily. The library is subscribed to 409 electronic Journal through Internet which students and academic staff can access. The readers are able to search the library books by the computer as well.

The library of Management Faculty encompasses an audiovisual section; with some pieces of equipments such as T.V. sets, videotape players, cassette players, and some educational materials such as audio and visual tapes as well as tutorial CD's.

In other sections of the library, users have access to computer sets, laser printer, and stylus printers. Academic members and students of the faculty can use the computers in order to search different academic articles and surf different information databases through Internet Network as well as the Home Page of the University.

MASHAD UNIVERSITY OF MEDICAL SCIENCES (MUMS)

Mashad university of Medical Sciences (MUMS, 2005) university has 20000 Administrative Staff, 564 Faculty members, 7000 Students and 8 schools. The university has a Digital Library with online access to more than 5000 Journals arranged alphabetically which accessible using a free charge ID and Password, and a URL linked to ScienceDirect.com. It employs a compendium of 407 Compact Disks; 7 Diskettes (floppy), 727 Videocassettes and 160 Audiocassettes. MUMS provides a wide range of computer resources in support of instruction, research, administration, and public service. The mandate of the University is to provide a

wide range of computing and consulting support for students, faculty and staff of Applied Health Sciences. MUMS's computer Center is equipped with computing and audiovisual software, including more than 60 computer workstations for individual use.

MUMS is an Internet Service Provider (ISP). It offers on-campus and dial-up service exclusively to students, Faculty members, researchers and administrators. All students have on-campus access through computer labs and the libraries. Some residences halls are equipped with computers and connections to the Internet. All University faculty members and students may use the Internet and have an e-mail address. Internet access has provided an effective link between the center and valuable education-related websites.

The School of Medicine has some facilities including:

> **Compact Disks: 100**
> **Videocassette: 700**
> **Audiocassette: 150**
> **Slides : 20000**
> **Microfilm : 380**

AHWAZ JONDISHAPOUR UNIVERSITY OF MEDICAL SCIENCE

Ahwaz jondishapour University Of Medical Science (Ajums, 2005) The University controls 10 schools, 27 daily courses, 16 night courses, 381 Academic staff, 15000 employees, six teaching and 22 non-teaching hospitals.

The Central Library guides the user to a bilingual research site, and not mention the local consumers, the outside clients also can utilize of it using GEST ID. After logging, the reader can glimpse a kind of information providing system as OFOGH. OFOGH leads the reader to know more about books and take delivery of a new view in library automation. OFOGH is a library information management platform that will support the consumer needs. Several searches are available to receive more information. It has ability in meta search between several centers and the user can search needs in other centers information. It also has ability in multi databases search, Meta search , Basic search , Quick Search, Advanced search and Multi search.

In META SEARCH, the reader is referred to active libraries are being subscribed to this system, which include nearly most the type 1 and 2 Medical Universities of the country. BASIC SEARCH prepares the user, searching all fields and all documents, which are submitted by the University, in QUICH SEARCH, using a key word, it is possible to have a bird's eye view of all documents, and MULTI SESRCH, prepares the chance to have a look in all databases in the site.
Besides this University, most of the universities, have established this system in their site.

TABRIZ UNIVERSITY OF MEDICAL SCIENCES

Tabriz University of Medical Sciences (tabzmed, 2005), at present, includes more than 5000 students, 480 academic staff, 13 hospitals as well as seven schools. Ovid Medline Service with full-text link to Ovid Journals, Medline (and other databases) on National Library of Medicine, with full-text links to many titles, Medline Service with full-text link to Elsevier Journals, Science Direct, Springer and ProQuest, Rose-Net, Wiley InterScience, Blackwell are among services provided by the Central Library of the university. The related link is:
http://elib.tbzmed.ac.ir/Journals/Journals.htm

Online Journals are arranged alphabetically; most of them are subscribed and provide full text articles for the users. Hardware equipments of the library include a main server, 17 computers, scanner, CD writer and some printers which are accessible from 8 a.m. until 6 p.m. every day.

SHIRAZ UNIVERSITY OF MEDICAL SCIENCES

Shiraz University of Medical Sciences (Sums, 2005), at present, encompasses more than 5000 students, 83 different majors, 460 academic staff and 12000 personnel as well as eight schools.

In fact there is no real Central Library in this university and no digital library is found in the official site. The biggest library in the university belongs to the School of Medicine, entitled" Shahid Garakany- Nejad ". This library presents Electronic Services and databases as follows:

- **Taylor & Francis**
- **John Wiley**
- **Elsevier and Springer**
- **Rose-Net Digital Library**
- **Medline on Rose-Net**
- **Oxford University Press**
- **Ovid**
- **Proquest**
- **Scholarly Publications**
- **Online Journals**
- **The New England Journal of Medicine**
- **Annals of New York Academy of Science**

Medline Section: In this section, medical abstracts are searched through Internet (http://medschool.sums.ac.ir).

Links to above-mentioned databases are also provided in university homepage. Some of the teachers teach their courses using different aspects of multimedia but apparently no system of DLN is under trial.

KERMAN UNIVERSITY OF MEDICAL SCIENCES

Kerman University of Medical Sciences (KUMS, 2005) operates 9 schools, 8 hospitals, and 4 research centers.

Digital Library of the university is under construction, but the university URL provides a variety of links to some dependable databases including OVID, HBInet, ROSENET, Sciencedirect, PubMed and so forth. The university Journal entitled" Journal of Kerman University of Medical Sciences" is accessible online from 1994 to 2002 which presents the full text of printed papers.

Besides some links to different CDs and searching in books are provided. "Health Information Center" (HIC), is a name for a URL provided by the university with capabilities such as links to books and Journals, different CDs, National Information databases, Nation Medical Journals, most of the international authentic databases and a lot of useful links to different scientific places.

Most of the departments have URLs under construction and in comparison to the other universities, more trials must be conducted. In this regard, the speed of connection to Internet is increased to 1 Mbps and a wireless fast LAN connection is provided this year. No DLN system is under trail in this university.

Miscellaneous

Iranmedex is an Iranian database of capacities such as simple search, advanced search, browsing Journals' list and the rest, which covers all abstract and full text articles printed in Journals by Medical Universities of Iran. This site has had 17718 articles and 6658 full text papers until January 2005. It is worth mentioning that most of the aforementioned universities are subscribed to this site. The website address is: http://www.iranmedex.com/

Daneshyar system

This is a useful web site (www.daneshyar.org) containing 17 reliable providers in scientific information field and with a capacity of showing the situation of subscribing to databases, e-books and e-Journals. Most of the universities offer this site to their readers.

CONCLUSION

As the concluding remark, the bird's eye view of this issue stands promising but reaching the global standards and norms needs a comprehensive cooperation and programming. Obviously, depending to the number of students, university budget, locality, management and many other factors, the feature is changed.

Each attempt in digitizing information is welcomed by teachers and students all over the world and Iran is not excluded in this case. Luckily, the authorities of Iranian universities appreciate the global situation and most of them spend time and money to go parallel with new advances. Now the speed of Internet is satisfying, and most of the universities offer Internet services for their clients either free of charge or with a low charge. Of course, E-learning is a new item in our universities and not too many people are expert in this regard. Actually when there is a mention of DLN in academic centers, a few people are familiar with it and as such few individuals can afford providing and teaching their lessons relies on it. But the important and the key not is the interested users which, enthusiastically are looking to learn more and more and the great number of voluntary individuals taking part in related classes is voucher to the case.

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