

ENHANCING QUALITY OF EDUCATION THROUGH E-LEARNING: The Case Study of Allama Iqbal Open University

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ABSTRACT

Education is the driving force for economic and social development in any country. Considering this, it is necessary to find ways to make quality education, accessible and affordable to all, using the latest technology available. Unfortunately, Pakistan has not been able to take advantage of the possibilities offered by e-learning. Major reasons for this are institutional and technical infrastructure, culture, computer literacy and access. Although government's commitment to promote e-learning in the country is encouraging and initiatives such as the establishment of the Virtual University (VU) are commendable, Pakistan has yet to go a long way in reaching the unique socio-economic benefits of e-learning. Allama Iqbal Open University is providing 'Education for All' through distance education from basic (functional) literacy to higher education (PhD) level. The aim of this paper is to present the case study of Allama Iqbal Open University in accordance with the strategies and adoption of e-learning.

This case study focuses on different dimensions including concept and rational of e-learning, its significance and quality education, efforts made by Allama Iqbal Open University for the enhancing quality of education through e-learning.

Keywords: Quality, Quality Education, E-Learning, Distance Education, Enhancement of Education, Technology.

INTRODUCTION

Journey of knowledge and learning began many millenniums ago. It started when the first question was asked and its solution was sought and implemented. Every millennium and indeed every century has its own trends and impacts on the coming times. End of one millennium marks and paves the way to new ideas for forthcoming generations. The same is true for last millennium, as it left roadmaps for the journey of learning for this millennium in the form of distance education, e-learning, m-learning and so on. Pakistan being a developing country needs a paradigm shift from the conventional model of education to the new emerging networked interactive education system for the socioeconomic and sustainable development. In fact this will be a concrete step towards the dream of knowledge-based economy.

Pakistan is a country of 160 million populations (www.usaid.gov.org, 2008) where right to education like other countries of the world is a fundamental human right. Education is seen as a tool for human development. The country Pakistan is comprised of four provinces Punjab, Sindh, Blochistan and NWFP. Urdu is national language but English is mostly used as an official language and in the same way for official correspondence.

Literacy rate is 55 % (Govt. of Pakistan, 2008). English language literacy is around 30%. Per capita income is around US\$ 1085. The GDP growth rates were 8.3% and around 6.5 % 7 % respectively for the years 2004-05, 2005-06 and 2006-2007.

According to the Constitution of Pakistan 1973, the Federal Government is entrusted with the responsibility for policy, planning, and promotion of educational facilities in the federating units. This responsibility is in addition to the overall policymaking, coordinating and advisory authority; otherwise education is the provincial subject. Pakistan follows three tier education system which includes Elementary Education (8 years), Secondary Education (4 years) and Higher Education. Overall enrollment in educational institutions is 34.84 million with teaching staff of 1.307 million. Out of total institutions, there are 50% primary schools, 16% middle, 10% high, 4.95% Deeni Madaris and 1.2% vocational Institutions.

The last two decades have witnessed a revolution caused by rapid development of Information and Communication Technology (ICT). ICT has changed the dynamics of various industries as well as influenced the way people interact and work in the society (UNESCO, 2002; Bhattacharya and Sharma, 2007; Chandra and Patkar, 2007). Quality of education includes infrastructure, teachers and the processes Quality is the main challenge for education system in Pakistan.

The Concept of Quality

The word quality itself stems from the Latin *qua litas* which means "of what kind". The concept of quality is relative, subjective and variable (Asim and Okon, 2005; Lindsay, 1992). Okebukola (2005) defines quality as fitness of purpose, while Fadipe (2005) views quality as appropriateness of resources available to education. Akpan and Esirah (2005) maintain that the concept of quality varies from that of providing special services to conforming to standards or fitness for purpose. Quality is the base line standard in education which can be measured on a scale of reference. It is an expression of standard or the means by which a certain set standard in education can be achieved (Maduawesi, 2005). The concept of quality in education is multidimensional and embraces all functions and activities in the academic sphere. It involves quality of students, instructors/facilitators, instruction, facilities and equipment, academic programmes, curricula and assessment of students' performance. The quality according to Cavanaugh (2002) may include quantitative elements such as completion rates, student performance, and student evaluations of the learning experience.

Viewed from this perspective, quality in open and distance learning involves quality of educational inputs, processes and outputs in its totality. Quality outputs could be viewed in terms of achievement i.e. what the students learn in terms of skills, knowledge, attitude and behaviour; attainment i.e. number of students who have completed prescribed academic programmes and quality of degrees or certificates awarded; standard i.e. the official learning and what the society expects.

The Concept of e-Learning

E-learning is the process to learn anytime anywhere by using computer. E-learning is a general term for education, training and information delivered by computers. It puts the emphasis on the gathering of skills and knowledge. There are many names for different kinds of e-learning such as computer based training, web-based training, video conferencing which are called many things (Luleå, 2001). In a computer related perspective, e-Learning is content and instructional methods delivered on a computer (whether on CDROM, the Internet, or an intranet), and designed to build knowledge and skills related to individual or organizational goals (Ruth, 2002, p.3).

This definition addresses what training delivered in digital form how content and instructional methods for help to learn the content, and why to improve organizational performance by building job-relevant knowledge and skills in workers. Taking e-learning as a tool to teach and learn Cysewski (2010, p.iii) explains the concept of e-learning in the following words;

e-learning is using the Internet to teach and learn, it includes communication, student submission of work, teacher to student and student to student communication, content delivery and enrichment, using the Internet as a research tool, and using the Internet as a publishing tool. E-Learning is a tool, like writing and speaking, that is used to teach and learn. The Internet provides a huge array of evolving tools that can enhance the teaching process, selecting and using these tools is E-learning.

Ortiz (2001) is of the view that e-learning is a rather new learning method which is still being developed in its initial part. It consists of learning based on Internet and other ICT methods. While UK Higher Education Academy (2003) defines that "e-Learning facilitated and supported through the use of information and communication technologies. In this way it is not just delivery of knowledge in a cost-effective way to students, but is learning in full awareness of an ICT-rich environment.

One key element of e-Learning that often gets missed is that it is about learning and not technology, with some e-learning being more a technology looking for a use rather than having any real educational value. And what is technology anyway? Is it "just what's been invented in your lifetime" or it is "the stuff that doesn't work properly yet" (Lim and Chai, 2004)?

Significance of e-Learning in Education

Because of its wider accepted concept, e-learning has a positive and developmental role in education. E-learning can be used as informative, situating, constructive and communicative tool in the process of education (Lim and Chai, 2004). E-learning also allows the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place at any time (Bhattacharya and Sharma, 2007; Cholin, 2005). E-learning in education develops higher order skills such as collaborating across time and place and solving complex real world problems (Bottino, 2003; Bhattacharya and Sharma, 2007; Mason, 2000; Lim and Hang, 2003). It has the following advantages:

- **Eliminating time barriers in education for learners as well as teachers (Sanyal, 2001; Mooij, 2007; Cross and Adam, 2007; UNESCO, 2002; Bhattacharya and Sharma, 2007);**
- **Eliminating geographical barriers as learners can log on from any place (Sanyal, 2001; Mooij, 2007; Cross and Adam, 2007; UNESCO, 2002; Bhattacharya and Sharma, 2007);**
- **Asynchronous interaction is made possible leading to thoughtful and creative interaction (Sanyal, 2001; UNESCO, 2002; Bhattacharya and Sharma, 2007);**
- **Enhanced group collaboration made possible via ICT (Plomp et al., 2007; Sanyal, 2001; Bhattacharya and Sharma, 2007);**
- **New educational approaches can be used. (Sanyal, 2001);**
- **It can provide speedy dissemination of education to target disadvantaged groups (UNESCO, 2002; Chandra and Patkar, 2007);**
- **It offers the combination of education while balancing family and work life (UNESCO, 2002; Bhattacharya and Sharma, 2007);**
- **It enhances the international dimension of educational services (UNESCO, 2002);**
- **It allows for just in time and just enough education for employees in organizations.**
- **It can also be used for activities like health campaigns and literacy campaigns (UNESCO, 2002).**

All these activities create a digital identity of the student and connect all the stakeholders in the education. It also facilitates inter disciplinary research (Chandra and Patkar, 2007).

E-learning in Pakistan

Information technology is growing at a very fast pace these days and e-learning is seen as essential for the quality and quantity in education. One area of confidence and certainly in the e-learning debate is the relative position of Pakistan when compared with other technically advanced cultures or Asian countries. The government aims to promote e-learning for human resources development and capacity building. In this regard the government of Pakistan is supporting the establishment of an infrastructure for awareness about e-learning in the country (Adeel, 2005). This need has emerged because the traditional methodologies have not achieved the targeted progress. Khan (2007, p. 14) has indentified the deficiencies which have compelled the policy makers to introduce the e-learning. According to him:

The need for E-learning recognized because targeted progress was not being achieved by the conventional education system as it had close connection with some obvious deficiencies.

- **Severe shortage of high quality faculty from school to university level.**
- **High cost of education especially by conventional means**
- **Most of the higher education institutes are located in the urban area.**
- **Social factors those don't allow certain people to go to other cities.**

It was a common understanding among the policy makers that this new phenomena of e-learning will produce more synergies with the existing established infrastructure and will contribute to sustainable development.

This commitment can be seen in the shape of Virtual University, National ICT R&D Fund with the aim "Education for all" and lifelong learning at Allama Iqbal Open University.

The key player at higher education level is HEC (Higher Education Commission Pakistan). HEC initiated a project of "Online Lecturing and Net-Meeting and using IP-based Video Conferencing System" for provisioning of Video Conferencing facility at all public sector universities and establishment of world class video conferencing lecture room. The primary objective of introduction of Video Conferencing facility is to enhance student's teachers interaction through distance learning, bridge the gap of good faculty, meet the shortage of faculty members at the universities located at far-flung areas and ultimately to uplift the standard of education in Pakistan.

The establishment of National ICT Fund is another important breakthrough for the promotion of e-learning in the country. The sector attracted approximately US\$ 2 billion in foreign and local investment, translating into 54% of the total foreign direct investment in the country (PTA, 2006). This investment has resulted in increasing the cellular subscriber base to 48.5 million and the fixed line/Wireless Local Loop subscriber base to about 5.6 million lines, ensuring service to 33% of the population and geographic coverage in over 1250 cities and towns by the end of 2006. In terms of basic and broadband access to Internet unfortunately the fruits of telecom sector de-regulation haven't been fully realized. The Internet subscriber population is 2.4 million with less than 30,000 DSL subscribers across the country. The entire broadband population is less than 50,000 including subscribers who are provided such connectivity by wireless or cable broadband.

Lessons Learnt for the Promotion of E-Learning in Pakistan

Siddiqui (2007) identifies some lessons learnt from Pakistan's experience in e-learning as follows:

- **Technological and institutional infrastructure lies at the heart of the challenges confronted by Pakistan in promoting e-learning. With a dismal average of 7.5 individuals per 100 inhabitants using Internet, the pace of developing reliable and speedy ICT infrastructure in the country needs to pick-up. Furthermore, additional institutions offering e-learning on a national level must be instituted.**
- **Computer literacy and access are yet another set of challenges for promoting e-learning in Pakistan (Reddi and Mishra, 2005). The HEC has also facilitated the obtaining of the International Computer Driving License (ICDL) which will help pace up computer literacy in the country (HEC, 2006).**
- **English as a medium of imparting education is a serious hindrance in ensuring the promotion of e-learning within Pakistan. The content must thus be converted into Urdu language for ensuring greater access, acceptability and utility. The role of the Centre for Research in Urdu Language Processing (CRULP) is essential in this regard.**
- **Culture stands in the face of all strategies aimed at promoting e-learning in Pakistan. Awareness campaigns regarding the utility of e-learning in the masses must be initiated.**
- **The inculcation of contemporary e-learning enabling techniques such as OSD and learning skills such as SRL are absolutely critical in improving the learning experience of e-learners.**

- E-tutors require proper training before they should be allowed to facilitate e-learners.
- Constant encouragement, virtual yet personal tutor-student interactions and adding an element of enjoyment in e-learning programmes (Abdon & Raab, 2001) is the key to adding value to the Pakistani e-learner's experience.

ALLAMA IQBAL OPEN UNIVERSITY

Allama Iqbal Open University (AIOU) was established under an act of Parliament in 1974. It is the pioneer in non-formal and distance education in Pakistan because of its approach, philosophy, system, functions and overall structure. Now AIOU is 4th among the 17-Mega Universities of the world.

The AIOU has been utilizing all possible media for instruction including; correspondence materials, radio and TV transmission, online teaching, non-broadcast media, tutorial instruction and group training workshops etc(AIOU, 2007).

AIOU adopts a multi-media approach for teaching at a distance. It has a full-fledged Institute of Educational Technology, who prepares CDs, radio and television programmes for different courses. It also has its own AIOU FM radio channel Assalam-o-Alaikum – which translates as 'this is the Voice of AIOU: the FM Radio of Allama Iqbal Open University'. Total programme transmissions of radio and television were 264 and 277 in 2005, 264 and 293 in 2006, and 264 and 382 in 2007, respectively (AIOU, 2007).

In recent years, the University programmes have expanded in all directions and still several others are in the process of development to be launched in the forthcoming semesters.

For spring and Autumn Semesters 2008, Allama Iqbal Open University has decided to offer one hundred and nine (109) programmes of studies ranging from certificate to Ph D levels (AIOU, 2008). The challenge at present for the future of the University is to maintain its excellent standard of education by providing high quality *tutorial and regional* support to the students.

QUALITY ENHANCEMENT CELL IN ALLAMA IQBAL OPEN UNIVERSITY

The Quality Enhancement Cell (QEC) has been established at AIOU, since 14 May, 2007. It is entrusted with the task to promote education for effective management of standard and quality of programmes at all levels. It is required to develop quality assurance processes and methods of evaluations that the quality of provision and standards of AIOU education are well maintained and improved. It includes curriculum development, course and staff development together with research and other activities. Further, the academic activities of AIOU will be monitored by Quality Assurance Agency (QAA), HEC through Quality Enhancement Cell (QEC). This cell uses Academic Audit (AA) "to review the process or procedures that faculty members use to provide quality education in their departments" (Awan and Ali, 2006, p. 1).

Academic Audit Process

There are five areas that are mostly examined in an academic audit i.e. determining desired learning outcomes, designing course contents, designing teaching and learning, developing student assessment and implementing quality education.

However, in this study we are constrained to delimit to 'Designing Course Contents, Curriculum, Course Production, Media (ICTs) Support for Courses', as we think these areas are the foremost in maintaining and enhancing the quality efforts for AIOU educational programmes. We also give a short description of the future plans of the departments, faculty-wise, as a step to enhance the quality. Moreover, admission criteria in the programmes of studies launched during 2006 is also given, evincing standard quality of intake to AIOU study programmes. For this exercise Course Profile and Programme Profile Proforma were developed and data was obtained from each course coordinator duly cross-checked and verified under signatures by the Chair of each department and Director of the institute and the Dean of the faculty concerned.

Profiles of 1377 courses were prepared. Of these, 179 were Functional Non-Credit, Open Tech. and STEP courses, 12 Middle level courses, 30 Secondary School Certificate level courses, 80 Higher Secondary School Certificate level courses, 282 Diploma and Bachelor level courses, 67 Teacher Education courses, 516 Postgraduate Diplomas and Master level courses, 192 MPhil/MSc (Hons)/MS courses and 19 PhD level courses.

Information Communication Technologies (ICTs) support is one of the basic components of the Allama Iqbal Open University Open Distance Learning Study Packages. Institute of Educational Technology AIOU in collaboration with the faculty has prepared audio visual (AV) media support/media programmes of 20 to 30 minutes duration for 144 AIOU courses. Of this most of the media support is confined to Secondary, Higher Secondary and Bachelor level courses.

Faculty-Wise Course Media Coverage;

- Faculty of Sciences has 598 courses, while AV media support is available for 46 courses.
- Faculty of Social Sciences and Humanities at present has 386 courses out of which the media coverage is available for 58 courses.
- Faculty of Education has 180 courses altogether, while 29 of these courses have the media support.
- Faculty of Arabic and Islamic Studies has 87 courses while the media support is available for 10 courses.
- Institute of Mass Education has 126 courses and 3 TV Programmes of the course entitled Teaching of Literacy, of basic level.

COURSES & ICT SUPPORT

Allama Iqbal Open University is a multi-level, multi-purpose and multimedia institution. In distance teaching and learning, ICT support forms one of the basic components of its learning packages in this system. Out of 1377 courses Allama Iqbal Open University has the audio visual (AV) media support/media coverage programmes of 20 to 30 minutes duration for 144 courses. At present the AV media support confines mainly to Secondary, Higher Secondary and Bachelor level courses.

At Postgraduate level media support is available for only two TEFL courses, four Women Studies course and ten Home & Health Science courses. Out of 67 courses of teacher training (PTOC, PTC, CT, Diploma in Education and BEd), ICT support is available only for twenty two courses.

Faculty-Wise ICT Support

Sr. No	Faculty	No. Of Courses	No. Of Media Programs
1.	Faculty of Social Sciences & Humanities	46	347
2.	Faculty of Sciences	58	364
3.	Faculty of Education	29	179
4.	Faculty of Arabic & Islamic Studies	10	141
5.	IME	01	03
	Total:	144	1034

Source: (Academic Audit of AIOU 2006, Allama Iqbal Open University)

The Quality Enhancement Cell, Allama Iqbal Open University has been recognized as a member of Asia_Pacific Quality Assurance Network (APQN). Therefore the academic programmes/activities of the University are required to be given on the website for the general information of the APQN. This cell is therefore responsible to co-ordinate the academic activities and follow up the departmental Self Assessment Manual of QAA,HEC.The self assessment (SA) has to be started on the line given by QAA website HHEC Islamabad for the guidance and help in the preparation of the report.
E-learning efforts by AIOU

Open Learning Institute of Virtual Education (OLIVE) is a Teaching and Learning Management System that allows instructors and students to interact in a virtual classroom by enabling web-based management and delivery of courses.

The goal of AIOU is to provide an electronic framework for delivery of course syllabi, course material, schedules, presentations, text-based discussions, chat, online digital resources, audio/video lectures, and grading of assignments, quizzes, and tests that will be readily accessible anytime anywhere in the world. Department of Computer Sciences (DCS) initiated E-learning activities in 1999, and the idea of OLIVE was approved in 2001.

This was the first milestone towards e-Learning. Work on experiment basis was started to establish infrastructure and facilities required for e-learning. Initially course materials, selected courses and learning management system were developed. Online classes were conducted at AIOU main campus, Lahore region, and other centers for four semesters from Spring 2002 to Fall 2003. DCS decided to offer Post Graduate Diploma PGD (CS) through on line mode starting Spring 2005 due to effectiveness of e-learning, low cost, fast communication methods, and automated performance measurement mechanisms for enhancing the quality of learning.

ICT TOOLS: ADOPTED AT AIOU FOR E-LEARNING

Students of AIOU can learn anywhere and anytime across the country and also out of the country through the use of ICT tools which include computer, teleconferencing and networking.

Computer

This is an electronic device that is capable of receiving, storing, manipulating and retrieving data speedily and efficiently (Asogwa, 2007). The availability of the hard-wares and soft-wares help the learner to choose institutional materials that meet his/her needs. The computer is an educational technology medium for individualizing instruction. Therefore, it renders excellent service in distance education both as a tutor and as a tool. All the regional campuses and centers of AIOU have computers to avail computer related facilities. Both tutor and student have a chance to use the computers through student counselors appointed at regional campuses and centers.

Teleconferencing

The use of teleconferencing facilities allows many people to be simultaneously connected so that discussion can take place even though the participants do not meet. It is particularly useful when the teacher and the students are widely dispersed and separated because of geographical location. This tool of e-learning is not yet commonly used at AIOU.

Networking

This is a communication system that links together computers, storage devices, word processors, printers, the telephone system and other electronic devices. ICT networks assist the exchange of information between people and institutions. ICT-based networking that can be employed in open and distance learning is internet/world wide web. The internet is a global network consisting of millions of computers and data bases (Lucey, 2005). It is a network of many computer networks.

The internet has the ability to deliver multimedia materials and this quality makes it highly suitable for Open and Distance Learning. The educational uses of the internet at Allama Iqbal Open University include: Browsing and dissemination of educational /academic information e.g.

- Newsgroups
- conferences
- Chat room (messaging)
- Institution / classroom home page.
- Research activities.
- e-learning/e-evaluation of students
- e-mail
- File transfer.

FACTORS MILITATING AGAINST EFFECTIVENESS OF E-LEARNING AT AIOU

There are some factors identified which militating against effectiveness of e-learning at AIOU. These can be explained like the following;

- **Power Supply:** Almost all communication and technological tools require steady supply of electricity to function. But unfortunately electricity supply in Pakistan is not available in many rural areas. Regular supply of electricity is also another serious problem which is being affected all sectors of life (Govt. of Pakistan, 2010). This creates serious problems in the use of ICT in the delivery of open and distance learning programmes.

- **Poverty:** Around 34% of the Pakistanis are still living below poverty level. The cost of computers and other ICT resources are far beyond their reach. Resultantly there is low level of computer literacy among the Pakistani citizenry and as well as in the students of AIOU.
- **Lack of Skills in Designing Course-ware:** Sufficient personals/ tutors/facilitators etc providing their services to AIOU do not have proper knowledge and skills in designing and delivering their courses in electronic format. This greatly affects instructional delivery system.
- **Low Funding:** Generally, education is low funded in Pakistan. This has resulted in low level provision of ICT facilities to the students of Open and Distance Learning programmes in the country. Investment in ICT educational services is low because the equipment, soft and hard-ware are costly (Yusuf, 2006).
- **Internet Connectivity:** Connectivity refers to the quality and extent of the internet infrastructure. In Pakistan, the internet does not reach to a vast population of rural residents, but is available in urban and semi urban areas private homes and offices, government agencies and in public settings including schools and libraries. Pakistan needs to lead in broadband connectivity, as effective online learning cannot take place if the internet disconnection exists. To make both students and teachers computer literate, ICT project should be made a priority by the government.
- **Low Teledensity:** This is another major challenge to ICT utilization in open and distance learning programme. Access to unhindered use of ICT tools such as telephone and internet has been very low (Asogwa, 2007). In spite of the Global System of Mobile (GSM) telecommunication, the use of ICT resources for educational purposes in general and open and distance learning in particular is still very low.

RECOMMENDATION TO ENSURE QUALITY IN OPEN AND DISTANCE EDUCATION IN PAKISTAN

To ensure quality in open and distance education in Pakistan, it is recommended that

- Teachers in distance learning programmes should given mandatory training and retraining of ICT programmes to provide them with practical and functional knowledge of the computer, internet and associated areas of ICT.
- Providers of open and distance education should strive to use quality and reliable ICT hardware and software supported by highly skilled personnel armed with knowledge and skills needed to ensure that the system runs smoothly.
- The Government of Pakistan should not only allow the continuation of the open and distance learning; it must be supported with adequate funding.
- The Government should ensure that the electric power supply in the country is made available round the clock. Rural areas without power supply should be supplied with electricity because a vast number of prospective students of the ODL are rural dwellers.
- The quality circle approach should be adopted in the designing of course contents and learning materials to ensure quality in course content delivery.
- On-line assessment of students work and end of course examination should be encouraged in open and distance learning programmes. This will check examination malpractices and hence, enhance quality of assessment of student's performance.

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