Widening Access to Higher Education: Open and Distance Learning in Higher Education Setting in Indonesia

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Abstract

The advancement of ICT offers effective and efficient learning support at all levels of education and in all fields of knowledge, especially in open and distance learning. One manifestation of this trend is the application of ICT in appropriate combination with traditional face-to-face classroom based teaching and learning to improve access to quality education, as well as to provide practical support for learning about the digital tools of today's society. Another manifestation is the accelerating development of ICT-based open and distance learning with the emergence of virtual learning in all parts of the world.

This paper is going to look at the picture of open and distance learning initiatives in higher education in Indonesia, and the influence of information and communication technologies in those initiatives. Some distance learning will be explored, and present results of such initiatives will be illustrated. Some concerns and further considerations on the development of ICT-based ODL in Indonesia will also be discussed. It is expected that such illustration will provide a clear picture of development of ICT-based ODL as an effort to widen access to quality education in Indonesia.

Keywords: open and distance learning, information and communication technology, Indonesia, ICT-based ODL initiatives

1. Introduction

The need for nations to increase the quantity and quality of human resources services through education will undoubtedly place continued pressure on the demand for open and distance learning. An additional factor that operates frequently in transitioning countries is the rapid increase of population. Indonesia and Southeast Asia's search for a cost effective and efficient way to provide access to education at all levels will further make more demands on open and distance learning models (Jegede & Shive, 2001). Many Indonesians continue to live in rural and remote areas and have a significant demand for education, which has not been met. Many Indonesian are still facing economical, geographical, as well as time constraints to participate in formal conventional education. On the other hand, the new vision of the national education systems has challenged higher education to provide quality education for all, and to increase participation rate from 14,2% in 2005 to 35% in 2025.

Within the context of rapid technological change and shifting market and economic conditions, higher education is challenged to provide increased educational opportunities without the benefit of increased budget allocation. Many educational institutions are answering this challenge by developing open and distance learning programs (Bates, 2000). With the advancement of ICT which offers effective and efficient learning supports at all levels of education and in all fields of knowledge, especially in open and distance learning, another manifestation is emerging through the accelerating development of ICT-based open and distance learning and the emergence of virtual learning in all parts of the world (Khan, 2002).

Open and distance learning is seen as the most feasible, inexpensive, and "easy" mode of education which can open up access to education for many students. Open and distance learning is also perceived to be able to provide adults with another opportunity for education, while reaching those disadvantaged individuals limited by time, distance, or disability, and updating the knowledge base of workers at their places of employment (Churton, 2006). In Indonesia, open and distance learning, although is not the only answer to educational solutions, is one of the legal solution that if designed properly and qualitatively can provide opportunity and access to quality education in a local, national, and global scale.

This paper is going to look at the picture of open and distance learning initiatives in higher education in Indonesia in the context of Southeast Asian Region, and the influence of information and communication technologies in those initiatives. Some open and distance learning will be explored, and the results of such initiatives will be illustrated. Some concerns and further consideration on the development of ICT-based ODL in Indonesia will also be discussed. It is expected that such illustration will provide a clear picture of development of ICT-based ODL as an effort to widen access to quality education in Indonesia.

2. Policy of ODL in Indonesia

In Indonesia, distance education was started in the 1950s. It was first seen as an alternative mode of education to prepare teachers via correspondence

courses. Nevertheless, the launching of the Universitas Terbuka (UT) – a distance education university – in 1984 marked the popularity of distance education in Indonesia.

The massive nature and the application of the economy of scale in distance education have appealed to much higher education to go into distance education business. The claims made by the universities are various, among others, they are trying their best to incorporate ICT into their educational practice to be able to offer quality education across time and space, thus serving the needy students in remote urban areas and they are offering education at the affordable price, as well as to apply ICT in appropriate combination with traditional face-to-face classroom based teaching and learning

Just like many other innovations in education, sometimes replications are made based on the tangible aspects, without enough understanding of the underlying intangible assumptions and philosophy. This applies in the case of distance education. Some of the institutions translate the distance learning as remote classroom. Some universities see distance education as offering a stack of lecture notes and textbooks for students to read on their own, until the exam time comes. Still other universities translate distance learning as in campus e-learning mode, whereby the students are encouraged to take active role in their own learning and become autonomous, by accessing the learning materials available on the web or in the internet, and the teachers are also expected to use the web or internet to store their lectures note, and or to search for references. The face-to-face interactions between teacher and students are determined to remain as it used to be. This mode of distance learning is applied by some of the private universities which have invested in ICT to prepare the students to become the world citizens.

In 2001 the government announces a new regulation for higher education system, regarding the distance education mode. The new regulation allows conventional universities to offer some of their programs or courses utilizing the distance learning mode. They apply dual mode in the teaching and learning activities, conventional and distance learning. However, the new regulation also stated clearly that only the ICT-based distance education is allowed to obtain review and evaluation for approval.

The regulation has been reconfirmed further by the new law on national education system stating that open and distance learning is one of educational system employed in Indonesia, there has been many initiatives commenced by government as well as by private sectors in building the ICT infrastructure for education. At the same time, there are also initiatives taken by universities to be ICT-based distance education.

3. Some ICT-based ODL initiatives

Within the framework of Indonesian national education vision 2025: Smart and Competitive Indonesian, access and equity to quality education is indeed imperative. Educational system at all level is expected to provide opportunities for all citizens to a seamless learning process, inspiring and enabling individuals to develop to the highest potential levels throughout life, so that he/she can grow

intellectually and emotionally, be well equipped for work, and contribute effectively to society, as well as achieve personal fulfillment.

At present, unbalanced access between remote and central regions in Indonesia to quality academic staff is still a concern of national development in the country. At present, the ratio of student in higher education for every 100,000 population in Indonesia is relatively low. Equity issue, in this case, can be addressed by expanding the existing higher education system to allow more access which will promote equal distribution at the local, regional, and national level. In this case, open and distance learning – supported by ICT – is seen to be able to provide answers to both access as well as equity challenge. In addition to Universitas Terbuka, which is a single mode open and distance learning university, there are at least four other universities have been engaged in ICT-based open and distance learning, i.e., Universitas Indonesia, Universitas Padjadjaran, Institut Teknologi Bandung, and Universitas Gajah Mada.

3.1. Student-centered E-learning Environment in Universitas Indonesia

Universitas Indonesia (UI) has enjoyed the support of Global Distance Learning Network (GDLN) Project from the World Bank since early 2000. Based on the availability of the system, and also its internal e-based education development, UI aims at expanding its education services to other potential students across geographical distribution.

In the effort of widening access to higher education and making the quality and relevant education available for Indonesian, UI collaborates with other public universities in remote areas (especially outside Java) to offer its educational services. Hasibuan (2006) mentioned that through such collaboration, UI will be able to disseminate and share its quality resources to other public universities for increasing the quality of educational services. Further, by empowering local higher education institutions, collaborative research can also be developed, and seen as the most strategic activities out of the collaboration.

Facilities from GDLN is employed as UI gateway to bridge the UI Campus Network (Intranet) – called Juita with the public network (WAN & Internet). To facilitate the e-learning environment, UI develops Student-centered E-learning Environment System (SCELE) which is based on Moodle. SCELE is designed to be a software tool to produce online-course (web-based) which is modular and based on Linux/Windows platform. Interaction in SCELE is facilitated through e-mail, discussion forum, and chat from lecturer to learner, learner to lecturer, and learner and learner. SCELE is built on modular concept to enable addition or removal of modules based on its suitability or necessity.

There are five main features of SCELE, i.e., user management, course management, content management, communication management, and evaluation management. Thus far, aside from technical aspects, content development has been the most challenging task (Hasibuan, 2006). The three level of content, i.e., course materials in PowerPoint, enriched course materials, established pointers as linkage to other sources of knowledge, is developed into two main streams, the course graph and the assessment graph. However, the lack of expert in e-learning and instructional design for e-learning in UI has directed the effort to be “just do it and

improve as we go along". Therefore, in many courses, the content in SCELE is just a mere transfer of the face-to-face lecture note into an electronic format. For this purpose, UI is making an effort to establish a supporting unit to assist academic staff in integrating the face-to-face courses with ICT to be e-learning courses, and to provide services for campus-wide e-learning development in UI.

Thus far, the use of e-learning course in UI is still supported by printed textbook and also face-to-face meeting on campus, which then form the blended learning. Nevertheless, based on its relatively successful attempt in e-learning, UI is eager to extend the use of SCELE in the university wide programs, as well as to other stakeholders. Further version of SCELE which is lightweight to enable offline access of SCELE by students with narrow bandwidth internet access. For these technical aspects, UI enjoys the benefit of support from its school of computer science. For its content, according to Hasibuan (2005), UI will try to develop dynamic course and assessment graph which will enable students to track the status of their study activities. They will also explore the development of personalization module, the use of problem-based learning and contextualized learning as interaction strategies in their e-learning environment, and inclusion of various subject matter areas offered through the e-learning mode.

3. 2. School on the Internet at Institute of Technology Bandung

School on the internet in Asia (SOI Asia) is a project funded by the Government of Japan focusing on educational sharing in Asia. The project focuses on universities as entity to embark on collaboration based on the emerging high demand on the international cooperation in higher education, high demand on the Internet deployment, and the high value of educational sharing among multilateral and multicultural countries.

SOI Asia has been started since 2001, and in Indonesia it is hosted by the Institute of Technology Bandung. It has been established as an educational consortium involving 18 institutions in 11 countries in Asia, i.e., Thailand, Lao PDR, Myanmar, Indonesia, Malaysia, Vietnam, Philippines, Bangladesh, Mongolia, Cambodia, and Nepal. Meanwhile, the Japanese partners include Tokyo University of Marine Science and Technology, Tohoku University, Japan Advanced Institute of Science and Technology, Keio University, The Japanese Society of Fish Pathology, and WIDE Project. In addition to the collaboration among those institutions, the project also welcomes worldwide individual contributors to carry out its programs. Among the programs of SOI Asia are teleconference and ICT-based courses at graduate school level (60 courses), special sessions (including Tsunami session), network operator workshops, research exchange (for 3 months), students exchange to graduate schools in Japan, graduate studies co-advisory program.

Steps in establishment of SOI Asia include network infrastructure development, human resources development (especially for network administrators), educational environment development, partnership among universities, and educational program development and implementation.

In terms of network infrastructure development, thus far SOI Asia has supported the establishment of pseudo broadband internet environment by utilizing receive only satellite equipment and UDLR technology. In the near future, it is

expected to be able to provide enhanced monitoring technology for stable operation, and expanding sites in other countries. The human resources development effort was focused mainly on network administrators through operators' workshops, operators' team building, monthly meeting, and short training programs. In the future, the training program is expected to be standardized and expanded to be local initiatives in Indonesia and Thailand. Through educational environment development, lecture site, gateway site, and student site for lecture site portability and stable operation has been designed. In addition, the standard environment for classes, multicasting system, and also network monitoring tool have been developed. Nevertheless, further exploration is still needed to improve the audio quality and interactivity within limited bandwidth.

In terms of partnership among universities, SOI Asia has been able to establish a steering committee which meets twice a year, to produce and share common curriculum and instructional activities, to draw policy on new sites, and then to also established academic committee, operators committee, research committee. The partnership among universities, in the future, is expected to be able to promote transnational/transborder education, and also cross institutional credit transfer, i.e., in the area of internet operation, advanced technology of marine science and technology, and biotechnology.

This university partnership is also supported by educational program development and implementation, which currently include sharing of 7 courses and 70 lecturers on biology and fisheries with more than 1000 students participating. Lectures are delivered from Asian partner sites via various communication programs, i.e., teleconference, multipoint real-time seminar, e-learning.

With the fast development of the project, SOI Asia still faces a challenge from the students who finds the courses and programs relatively less attractive, of a little value, and less rewarding. Many students expect the courses offered through SOI Asia will be able to give direct award to their study, i.e., grades, certificate (or accredited courses), and also opportunity to obtain recommendation to study in Japan. Since the system for transfer of credit has not been settled, and the offer through SOI Asia is more oriented toward academic enrichment, the students are less motivated to participate in the course, which demand a different set of skills and requirement on the part of the students.

3.3. Smart and Innovative Learning at UGM

Smart and Innovative Learning at UGM (SMILE@UGM) is a new learning approach taken by Universitas Gajah Mada to improve the quality of its education. The approach is founded based on the spirit of education for all, and provision of quality education for all.

UGM which is located in Yogyakarta has been one of the outstanding public universities in Indonesia. Within Yogyakarta itself, education is a major economic sector with more than 200 higher education institutions in the city. Therefore, Yogyakarta has a large pool of knowledge and information resources, as well as competent human resources. The learning resources range from libraries in universities and government institutions, academic units, government institutions, non-government organization, industries, and many others. ICT-based education

employing the available learning resources is seen as one way to improve UGM's education services.

ICT-based learning in UGM is perceived to offer improvement of education materials and human resources, to increase access to quality learning materials, to overcome the problems of limited physical facilities for students, and to make optimal use of ICT-based communication channels to distribute knowledge and information. Based on those perceptions, UGM develops key strategies to embark in ICT-based learning initiatives. The strategies include the use of ICT, content development, users' awareness and ICT skills development, development of sharing and exchanging mechanism for better access and learning communication. To carry out those strategies, UGM employs the concept of (networked) learning resources center to be available physically as well as virtually as a place where teachers and students can interact in a learning process, and a place for repository of learning resources.

The development of ICT-based learning initiative in UGM or Smile@UGM has been first focused on small scale development of Faculty of Engineering (FE). In FE, the Smile@UGM is combined with the use of problem based learning as virtual instructional strategy. The content development consists of development of underlying theories and concepts, examples and case studies, documentation, references, technical manuals, exercises and practices, and external resources (linkages) for each course in engineering. Some consideration underlying the development of content, i.e., emphasis on effective transfer of information (correct and updated contents, minimal distractions), requirement of minimum learning effort (user friendliness), the use of multimedia format, and also the use of the most efficient and affordable delivery format (low bandwidth connection).

From the development efforts, the working team of Smile@UGM noticed that learning experience in engineering field requires explorative activities, and that it is impossible for the team to fulfill that requirement by themselves. Therefore, digital learning must be able to provide means for accessing diverse learning resources, even to those outside of the physical reach. According to Priyambodo (2005), in order for the digital learning to be successful, support is needed in the form of infrastructure management, content creators, content developers, application software developers, training, and regulations. Overall, the support requirement indicates clearly that the implementation of digital learning requires the paradigm change of instructional activities and the overall system of education at UGM.

3.4. E-learning Development Experience at University of Padjadjaran

The development of e-learning initiatives in Universitas Padjadjaran is started based on the effort of Universitas Padjadjaran in achieving its mission to effectively and efficiently manage the process of education, research, and public services to support the students in achieving the vision and also to be nationally as well as globally recognized. To realize the mission, Universitas Padjadjaran makes concerted effort, among others, to increase the quality of its academic and administrative staff. E-learning is perceived to be one strategy in increasing the quality of its academic discourse.

Universitas Padjadjaran believes that e-learning will increase flexibility in teaching and learning, enhance communication opportunities, provide wide access to a rich and diverse range of resources for students, be able to create more authentic learning situations, enhance students interaction with course content, provide timely and efficient feedback, facilitate a range of student learning styles and approaches, enhance course management, provide opportunity for re-personalizing education, and provide a tremendous opportunity for faculty members to be involved in continuing professional development effort.

The initiative was started in 2003 through a series of seminar and workshop to design the map of UNPAD Network. The infrastructure development took place for two years from 2003-2005, including acquisition of server, network, PCs, and application programs (software). Training for administrators, lecturers, and helpdesks was conducted during 2004-2005. Socialization of the e-learning initiative has been done since 2004 up to present, for UNPAD as well as for other higher education institution. Some teleconferences are conducted under the scheme of this e-learning initiative since September 2004. In the year of 2004, the adoption of e-learning by lecturers was accelerated by the provision of teaching grants, and rewards for best e-learning course. Starting 2005, UNPAD is developing e-learning community, supported by the University of Utrecht for the overall project, Open University of Malaysia for content and multimedia development, and Universitas Muhammadiyah Yogyakarta to share expertise and develop the knowledge network.

In general, the e-learning initiative in UNPAD employs a blended learning environment, where traditional teaching approaches (face-to-face classroom learning activities) are blended with the learning technology (internet information and communication technology. The training for lecturers has involved 207 lecturers, and produced 75 graduate level courses in e-learning format. For its e-learning initiative, UNPAD selects WebCT and employs it fully as its learning management system. Although there were problems faced by students, lecturers, and system designers, UNPAD is taking e-learning initiative seriously, and expects to widen its operation to collaborate with other universities in making an e-learning community, to develop e-learning research and development, and further to develop e-learning for government, corporate, as well as private sector (E-learning Team, 2005)

4. Remarks

With the development of ICT and its influence both toward face-to-face education and also distance learning, e-learning is perceived to be a popular alternative learning system discussed in many occasions by many higher education institutions. The ultimate goal of e-learning initiatives is to take advantage of the advancement of ICT to improve student learning. The initiative on e-learning requires a correct approach and support at the university wide scale. In addition to the issue of the ICT – hardware, software, infrastructure (connectivity, etc.), human factor has been identified the most notable element required for building the e-learning initiatives. Most users (mostly students) show their eagerness in using the e-learning for instructional purposes (teaching as well as learning). From the surveys conducted by UI, ITB, and UNPAD, it was clear that the students perceived their e-

learning experience was novel and challenging. Nevertheless, from the perspective of the developers, i.e., faculty members, the work of transforming their courses into e-learning courses was perceived extra workload which required extra (new) skills, and extra time spent. Further, the lack of skills has led to the transfer for all face-to-face and printed materials into mere electronic files. Faculty members assume that when they have their materials in electronic files ready for students, then learning will take place automatically. Thus, the emerging new roles and responsibilities of faculty members in preparing, maintaining, and carrying out the e-learning process, while keeping up with the existing teaching and learning responsibilities is a tough challenge for faculty members.

From the reports, it is also clear that the lack of ICT skills and literacy, or ICT culture has been the main obstacle faced by the users (students, lecturers, administrators) and the course developers. For e-learning initiative to work, both faculty members and students, even administrators, must view ICT in a positive manner, be comfortable with the technology, and use it effectively. Even faculty members and students who hold positive attitudes toward technology may have difficulty transferring these attitudes into productive actions, when the system in the university does not provide enough support for them to do the exploration. Further, their personal concerns (i.e., difficulties in developing their e-course, technical difficulties, etc.) must be attended to through adequate and personal support. A huge amount of money placed to technological development alone will be in vain unless considerable attention paid to assisting faculty members and students make the transition into a technology rich learning environment.

Most e-learning initiatives in Indonesia at present are at the developmental stage. Critical mass must be further developed, and the system must also be furthered explored and research. Thus far, the focus of the initiatives have been on the technology, the what (courses) in e-learning format, and the source (from whom: lecturers) of e-learning courses. Further down the road, the shift of focus is necessary, i.e., to focus on how learning is gained, rather than on what and from whom by what technology. Kaur (2006) stated that with e-learning, we are not just introducing new technology for learning; we are introducing a new way to think about learning. Moreover, the new system usually makes war against the old existing system. It competes with for time, attention, money, prestige, and a worldview.

Nevertheless, the e-learning initiatives have indeed held the potential of widening access to higher education. At present, quality education offered by UI, ITB, UGM, and UNPAD are available at the click of the students' finger at ICT and the net across time and space. Combined with availability of quality education services offered via distance education by Universitas Terbuka, the initiatives are very promising in increasing the participation rate of higher education students all over Indonesia. It is expected that further, some other higher education institutions will take part in this e-learning initiatives, to open up more access to quality education in Indonesia, as well as other parts of the regions.

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