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CHALLENGES RELATED TO THE IMPLEMENTATION OF E-LEARNING IN HIGHER EDUCATION INSTITUTIONS IN LIBYA

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ABSTRACT

This paper presents the challenges which exist in the implementation of IT and e-learning systems in Libyan Higher Education Institutes. Over a period time, most of the HE Institutions in Libya have introduced E-learning as one of the media of instruction in courses offered at their institutions, and in some it has proved to be a good teaching and learning method; for others, however, there have been problems in the implementation process. The paper addresses the factors which act as barriers to the creation of innovative E-learning environments of excellence amongst students in HE in Libya. The identification of those factors will bring further benefit to those HE Institutions that are finding E-learning a delight to work with, and also help those institutions that are battling with E-learning to find solutions to the issues of how to successfully implement and benefit from E-learning. This paper seeks to identify the challenges that learners, instructors and course developers experience on the E-learning path. It has been found that a key barrier facing the implementation of E-learning is resistance to change, which is surprisingly strong amongst both academic staff and the Ministry of Education.

Keywords: E-learning; Libyan ICT; digital gap; e-learning barriers.

1 INTRODUCTION

The introduction of an E-learning programme into the learning system in a specific country must take into consideration the social and cultural aspects of that society. The social and cultural background of the educator and learner plays a significant role in determining the effectiveness of E-learning, and is thus one of the most important factors for the success of education through E-learning. This importance differs from one society to another, according to the values of the society and its customs and traditions. Both active learning and E-learning strategies encourage students to use various sources of knowledge, and persuade them to integrate and employ information efficiently, so that students are enabled to create questions and discuss new ideas inside working teams, where information is shared with a view to achieving a common goal (Kenan, 2009). The teaching load in Libyan universities is typically large; for example, the average number of teaching hours for academic staff is 24 hours/week, and Libyan universities have not yet established a scientific research tradition (Al-teer, 2006; Al-badree, 2007). Thus, even professors find it difficult to find the time for research activity and educational development.

The main categories of E-Learning and their benefits are as follows:

A. Synchronous learning; this uses a learning model that imitates a classroom course, lecture or meeting using Internet technologies. The interaction is live in synchronous learning; it requires all the participants to be available at the same time.

B. Asynchronous learning is described as a web-based version of CBT, which is typically offered on a CD-ROM or across an organization's local area network (LAN). The learner can access the course at any time, at his or her own pace. The focus of this dissertation is primarily on asynchronous learning. All these categories involve the use of technology such as personal computers, video, satellites, telephone and portable electronic devices (Zhang et al., 2004). E-learning may incorporate both synchronous and asynchronous access, and may be distributed geographically within varying limits of time (Wentling, et al., 2000).

C. Web-based training; this is learning which integrates instructional practices and Internet capabilities, in order to direct a learner toward a specified level of proficiency in a specified competency (Conrad, 2000).

D. Supported online learning is mostly used where the majority of the content of the HE course may be delivered through lectures or through distance-learning textual material.

E. Informal E-learning; this is a growing field which offers opportunities to use technology to support informal learning in the workplace.

All these categories have several benefits, which are briefly described below:

- Provision of individualized and self-directed learning
- Cost savings
- Creation of a collaborative learning environment
- Allowing the unlimited use of learning material
- Provision of a rich learning environment as part of a blend of learning methods.

Kenan (2009) produced a diagram of the expected benefits of using e-learning and ICT in Libyan HE institutions, as perceived by the users (see Figure 1). The diagram was produced on the basis of statistical analysis of the answers to a survey questionnaire in which the respondents were restricted to only one response; however, there are likely to be many benefits from using E-learning.

Figure 1: Respondents' perceived benefits of using e-learning and ICT (Kenan, 2009)

2 INFRASTRUCTURE OF COMMUNICATION TECHNOLOGY (ICT) IN LIBYA

Since 2000 there has been an increase of interest in technology in many HEIs in Libya, and more institutions are spending a higher proportion of their budgets on providing an ICT infrastructure (Porter and Yegin, 2006). Libya wants to match and compete with the standards of HEIs in other countries. This goal is part of Libya's move towards a knowledge-based society, for which ICT is considered a prerequisite. Figure 2: shows ICT development in Libya compared with that of neighbouring countries, and it is clear that network provision and performance for both fixed and mobile telephones remain a major challenge for Libya. Internet usage is also relatively low, which is a consequence of the poor telephone network. This will remain the case until the latest technology, which allows PCs to communicate directly with the Internet without a phone line, becomes much more widely available in Libya.

Figure 2: Comparison of ICT penetration in Libya with that of neighbouring countries (Porter and Yegin, 2008)

Basic education in Libya is well developed and literacy levels are among the highest in the Arab region. However, current education does not provide a "job-ready" work force because the education system is disconnected from the demands of the job market. Previous education policy decisions are having a negative effect in important areas for business such as IT and foreign languages. Also, continuous professional development is almost non-existent (for example, during its isolation, Libya's doctors could not update themselves on developments in international healthcare on an ongoing basis (Kenan, 2009)).

3 BARRIERS TO THE ADOPTION OF E-LEARNING IN SOME ARABIC COUNTRIES

In 2011 it became clear that ICT in Arabic countries is distanced from world Internet sources due to the different infrastructures. The Saudi Arabian Communications and Information Technology Commission conducted a study in which the answers from 7,500 individuals revealed that only 49% of those questioned were aware of e-learning, while only 5% of those who were aware of it had ever used it personally. (CITC, 2007)

There are several reasons why governments in the Middle East have adopted a passive attitude towards e-learning. The most important reason has been the very low rate of Internet usage by the general public (Al-Kahtani et al., 2005), which has in turn been due to: the high initial costs associated with Internet access; the low speed and quality of Internet connections, and the fear that Internet connection would bring about immoral values and corruption of the family (Mirza, 1998). In addition, the conservative religious clerics have continuously warned of the dangers the Internet would bring to society, and many people have heeded this warning.

Another important reason for the hesitation of many university academics to embrace e-learning is the low public esteem for online learning. An online degree is seen to offer fewer job opportunities and is not seen as comparable to a traditional degree (Dirani and Yoon, 2009). Additionally, the learners' attitudes and lack of prior knowledge of IT use are major factors that have affected the acceptance of e-learning by students (Selim, 2007; Ozkan and Koseler, 2009; Abbad et al., 2009).

Yet another cause for not rushing into the adoption of e-learning in the Middle East is the great lack of online repositories that contain educational material in the Arabic language. A high percentage of faculty members may not be capable of creating such material, and hence, courses would not lend themselves to e-learning. Scientific programmes such as computing sciences, medicine, and engineering may be more appropriate for e-learning in the Middle East, as most scientific colleges teach their courses in English, and hence electronic course material may be more readily available.

4 EVALUATION OF THE ICT GAP IN LIBYA

A. The digital gap or “Digital Divide” of Libya

Several indicators can be used to show the spread of ICT applications in education: the number of computers per hundred students; the number of hours of study in the field of ICT; the number of schools that use the Internet; the speed of the Internet connection, or the existence of specialist television and radio broadcasts. These can be used on a global scale to determine whether there is a “digital divide” between countries.

Alhawat (2005) concludes that, because the technical and technological level of a country largely determines the rate at which information technology develops, the developing countries will not catch up easily. In fact, Alhawat is concerned that developing countries may miss out on the opportunities offered by the information and communication revolution, because of an inability to fully participate in all spheres of political, economic, cultural and scientific life provided by the IT revolution of new technology.

B. Underdevelopment and the digital gap

Albadree (2007), Alhawat (2005) and Elzawi (2010) have conducted studies related to web usage in the Middle East and around the world. During the year 2007, on a world scale, Africa had 3.6% of Internet users; the Middle East, 10%; Asia 11%; Europe 39.4% and North America 67%. This shows that there is a substantial digital gap, which will require some effort to overcome.

Craig Barrett, Chairman of Intel, wrote an article about “Bridging Africa’s digital divide” in 2011. He underlines that “Computers are not magic; teachers are magic, if you train teachers effectively in how to use the technology and how to use it in the classroom to make it more interesting, more exciting, to teach young people how to solve problems” (Barrett, 2011).

The challenges include a lack of submarine cables, and the fact that there is no overarching strategy to create a fibre network throughout Africa. It is more of a regional or country-by-country issue, which has led to relatively slow process, yet the advantages of digital technology are immense: better education; better health care, and economic development.

5 BARRIERS RELATED TO THE IMPLEMENTATION OF E-LEARNING IN LIBYA

These barriers are mainly pedagogical, technological and attitudinal, according to the factors discussed in (<http://www.nationmaster.com/country/ly-libya>):

A. Although most Libyan universities provide each faculty member with a personal computer, a significant percentage of faculty members are still computer illiterate, and one might reasonably estimate resistance from those members toward any attempt to adopt an E-learning model in their discipline within the university.

B. The lack of vision of university administrations regarding the possibilities of E-learning is also a real challenge. University decision-makers fear that E-learning would abruptly shift traditional education into a new pedagogical venture with which educators and policymakers are not sufficiently familiar (Abouchdid and Eid, 2004).

C. In Libya, a strong power structure governs the relationship between learner and educator, and the E-learner may feel subservient to the educator; this could prove a problem when a student is asked to discuss his/her views freely with the educator.

D. The lack of Arabic learning tools and applications for E-learning courses will be a serious challenge in implementing E-learning into Libyan HE.

E-learning is still in its infancy in Libya, at the stage of attempting to implement E-learning case studies. Although initial introduction of E-learning opportunities in HEIs seems to be successful, there are still many challenges that might prevent the general adoption of E-learning. Al-badree (2007) divides these challenges into three categories, as follows:

A. Technological resistance:

1. Insufficient network and systems infrastructures.
2. Weaknesses of E-learning development in HEIs.
3. Difficulties in overcoming initial implementation problems.
4. Lack of experience in using technology.
5. Lack of provision of robust Internet access.
6. Lack of specific student services.

B. Cultural resistance:

1. Unfamiliarity with the Internet and related technologies results in a lack of appreciation and understanding of E-learning and its benefits.

2. Opposition to the adoption of the necessary educational changes (e.g. self regulation and a student centred approach) required for successful E-learning.

C. Other issues:

1. Lack of a general strategy of education linking the different stages of study.
2. Lack of common regulations or standards for E-learning.
3. Disapproval of E-learning courses from the Ministry of Higher Education.
4. Difficulty in securing collaboration in accreditation.
5. Lack of cross-institutional collaboration.

Figure 3: Barriers to E-learning in Libya (Kenan, 2009)

6 E-LEARNING STRATEGY

The success or failure of an E-learning initiative will be directly related to the quality of strategic thinking that underpins it. The strategy should be sufficiently flexible to accommodate changes in the developments in E-learning products, services and technology. This can be achieved through revisiting the strategy from time to time to ensure it keeps pace, not only with changes in technology, but also in teaching practices. Artemi (2009) has conducted a SWOT analysis of an e-learning model for Libyan HEIs, and recommended that the institutions should start working hard on minimizing weaknesses, such as the poor English skills of students as well as instructors; the lack of ICT infrastructure, and the lack of e-learning know-how. He emphasized that an E-learning initiative must be tied to the institution's core business policy to ensure that the business objectives are met. Rhema and Miliszewska (2011) have carried out a SWOT analysis of e-learning in Libyan HE, using data analysis based on experiences within the institutions in general, as well as on the perspectives of the instructors, students, administrators, and technical staff towards using web-based instruction. The authors of this paper will next make recommendations for improving the efficiency of e-learning implementation in Libyan HE institutions, based on the findings of the above mentioned publications.

7 RECOMMENDATIONS FOR FUTURE WORK TO DEVELOP E-LEARNING IN LIBYAN HIGHER EDUCATION

A. Recommendations for factors that affect learners' (students') and instructors' proficiencies

- Assess learners' computer skills before they enrol on an E-learning course.
- Course content should be designed to suit different kinds of learners, or complement their preferences and learning styles.
- E-learning course content should meet the requirements of the National Qualifications Framework (NQF) and Libyan Qualifications Authorities (LQA), and should be continually revised and updated.
- HE Institutions should hire an adequate number of support staff to be responsible for administrative duties, and take this heavy burden away from academic staff.
- Instructors should let learners know their availability schedule, so that learners can know when to expect a response from an instructor. A backup plan should be put in place in cases where the instructor may be out of reach or unavailable for a long period. Additional staff members should be provided for support.
- Course content should be made available in different languages that will make learning easier for learners. In Libya, there are two official languages (Arabic and English); it would benefit learners if the course content was available in their primary language.
- For E-learning to be successful in Libya, the mindsets and attitudes towards learning of highly diverse learners should be taken into consideration. There are learners from rich areas (such as Tripoli) and suburban areas, with a lifestyle which is similar to more developed countries; and there are also learners from areas like Koofra and Aubareye cities, who have third world experiences and will have never seen or used a computer until they reach HE.

B. Recommendations for institutions in implementation of policies

- Senior managers should declare their support for e-learning implementation and allocate a fixed budget.

- Training should be offered to instructors and course developers so that they can be more familiar with learning management systems, and updated on changes to software and hardware.
- Technological learning tools should be maintained and kept up to date at all times.
- The issue of intellectual property, ownership and copyright should be addressed with course developers, to avoid unnecessary battles over learning materials. HE Institutions should have agreements and sign contracts with teaching and development staff on intellectual property, ownership and copyright.

C. Recommendations for governmental HE policies

- More coordination and resource sharing between different HEIs could be of general benefit. There are some HEIs which have shown success in the implementation and management of E-learning; those institutions should be encouraged to share their success with other institutions.
- Partnerships should be developed between the government, HE and the private sector. Government departments and the private sector should be encouraged to sponsor the development of technologies in HE, in order to produce a workforce that is competent in technologies.

8 CONCLUSIONS

E-learning can prove creative in meeting the challenges of higher education. However, special care should be taken to analyze the opportunities, enabling factors and the barriers to E-Learning before implementation. It has been found that the challenges of, or the barriers to, E-learning in Libya could be classified into three different aspects.

Technologically, Libya faces many barriers to the development and growth of E-learning, because of the lack of strong, fast and widely available Internet connection technologies.

Culturally, Libyan respondents have exhibited resistance to change; however, Libya faces the added disadvantage of lack of experience of Internet usage amongst many of its students.

Finally, this paper has shown that e-learning systems cannot be successful without the use of effective ICTs. Therefore, the Libyan HEIs must consider the successful attempts at using ICT in teaching, and how these attempts could have an impact on e-learning in education. This paper has laid the groundwork for an exploration of the relationships of the nodes and their levels or values as regards a rich body of knowledge specific to Internet access. It has also suggested factors which would assist in the increased use of the Internet by Libyan academics.

The integration of e-learning into the educational system is likely to become faster thanks to the recent decisions and commitments of the Libyan government. Access to ICT facilities in all Libyan institutions is likely to be improved in the very near future, thanks to major infrastructure projects that are currently in progress. However, there is a need for the provision of suitable training at different levels, the development of expertise in e-learning use, and research to gather data and inform future developments; these are important factors that require plentiful attention and a great effort from the Libyan government to ensure the development of adequate awareness, attitude, and motivation towards e-learning, as well as suitable responses.

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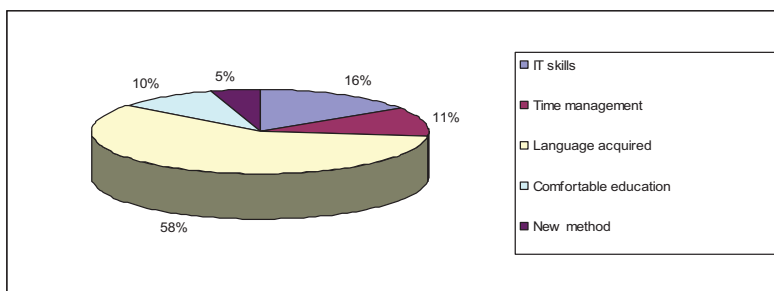


Figure 1: Respondents' perceived benefits of using e-learning and ICT (Kenan, 2009)

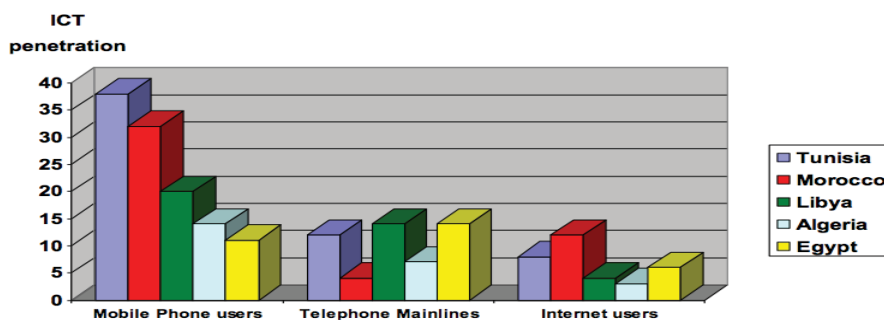


Figure 2: Comparison of ICT penetration in Libya with that of neighbouring countries (Porter and Yegin, 2006)

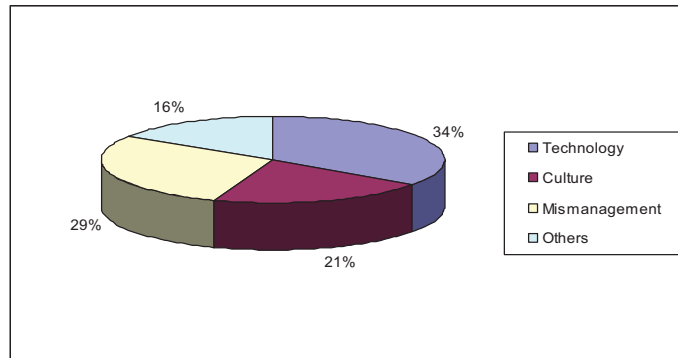


Figure 3: Barriers to E-learning in Libya (Kenan, 2009)