



The Readiness for an e- Learning System in the University of Mustansiriyah (UoMust) Baghdad-Iraq

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Abstract

The University of Mustansiriyah (UoMust) in Baghdad, Iraq is attempting the utilization of e-Learning in an effort to revitalize the educational environment after suffering major setbacks in all aspects of their sectors due to the unstable social and political conditions. Their development of an e-Learning model included the choice of relevant softwares, training and skills for the e-Learning system. A survey was administered to 250 senior academic staff of UoMust to extract feedback on the readiness to utilizing an elearning system. The questionnaire covered issues on the real situation of the ICT in higher education sector & universities, directions towards e-learning, seeking outside help to establish elearning and acceptance of elearning. The survey showed very clearly that there was no fear from adopting any e-learning LMS or LAMS system for the proposed model in the university. This was highly encouraging as the last Ministerial decision in Iraq was to record at least 20% of their lectures be documented it in the virtual library of the Ministry and this will provide the impetus to kick-start the e-Learning journey in Mustansiriyah University.

Elameer, A.S.F. & Idrus, R.M. (2010). The Readiness for an e-Learning System in the University of Mustansiriyah (UoMust) Baghdad-Iraq. *Malaysian Journal of Educational Technology*, 10(2), pp. 31-41.

Introduction

Higher education organizations and universities in this new century are driven by the technology and conviction that will help to remove old limitations, foster innovation, enable both students and teachers to live up to their full potential, and the concept of student-centredness in the teaching and learning process. The combination of learning and technology has give rise to concept of e-learning. This has progressed and the flexibility in e-learning capability of speed, bandwidth, storage and memory has led to "enthusiastic claims for technology's ability to provide high-guilty education for all" (John Stephenson, 2003). E-learning has "become an important part of most modern educational systems" (Bates, 1995).

The University of Mustansiriyah (UoMust)

The University of Mustansiriyah (UoMust) is one of public universities in Iraq which was established in 1963 from the old Abbaysian Mustansiriyah School that was constructed in 1267. This university as destroyed, burned, and looted in the Mar-April 2003 war (Fig. 1).

UoMust faced a lot of challenges when it comes to the introduction of technology enhanced learning. This is because traditional teaching methods still has a stronghold and elearning will burden the existing infrastructure as no provisions were made for its use. As a public university in a conflict country with unstable and vulnerable economy because of the continuous political changes, UoMust still lacks the basic technological infrastructure for learning. Before 2003 war it was calculated that the UoMust have more than 3000 computer in its main campus only but they are not connected or networked at all.



Figure 1 UoMust after the 2003 war

Implementing a university network infrastructure with broadband Internet is a prerequisite and the target for successful implementation of an e-learning system, but it seems a very difficult task with a lot of challenges to face such as the lack of the Information Communication Technology infrastructure which is the trade mark of all Iraqi government bodies and it is reflected also in the technological proficiency of the UoMust academic staff. A report to the **United Nations Economic and Social Commission for Western Asia (UNESCWA)** from the Iraqi Commission of Computers and Information which is one the Higher Education Ministry bodies in Iraq, published at the end of year 2007 showed that *there is a great*



weakness in all of the ministry and universities infrastructures with lack of computers networking and expertise in both field of hard ware and software ,and in the UoMist the report shows that university have only five shared v-sat internet connection and the working is only three of them and for sure now the situation in the university is better than what the report have stated .

However, the students painted a completely different picture especially because of the Internet and mobile culture that exists widely among youth population in Iraq. According to the mobile companies, there are over 14 million registered mobile phone users in Iraq.

Educational Technologies in Iraq and UoMust

The years between 1975 and 1985 was considered as the golden days of Iraq and billions was spent in the education sector. Various forms of educational technologies were supplied to all universities like computer centres, close circuit TV and computer labs; especially in the main universities of Iraq, Baghdad, Mustansiriyah, Technology, Mosul, Salahaddin and Basra. After 1990 Iraq was under UN economic sanctions and everything was halted. After 2003 the situation changed but the focus was on rehabilitation the building, labs, supplying equipments ...etc, because 90% was destroyed in the education sector.

As a final result;

- Three great wars and heavily sanctions against Iraq in years between 1980-2003 have severely damaged higher education system, especially in ICT field,
- No real or good achievements have taken place from 2003-2009 to rebuild Iraq higher education system, because of the disruptive internal violence,
- Iraqi Universities are still working with old and traditional education standards and regulations, and no real national transforming strategies were adopted to improve the education institutions,
- The implementing of a university network infrastructure with broadband Internet which is a prerequisite was a very difficult challenge
- Most of the Iraqi University staff from presidents, academic, technical, administrative need to be trained via a human resource capacity building plan,
- A huge shortage in the university budgets because of the unstable economic condition.

E-learning benefits for UoMust and IRAQ Higher Education Universities

A UNESCO report (Education under Attack) (O'Malley, 2010) published in February 2010 , stated that between March 2003 and October 2008, 31,598 violent attacks against educational institutions were reported in Iraq, at least 30 per cent of professors, doctors, pharmacists and engineers had fled the country since 2003.

Even with the improved security situation in Iraq, threats to education institutions remained at a high level in some areas, with fatalities among the faculty. There also a high percentage of student absence from the universities especially in Baghdad and Mosul. As such elearning is seen as a solution in addressing the education issues in UoMust as it will focus on the issues of;

- Brain drain of the lecturers and Professors and the shortage of well-trained lecture and professors.
- The huge shortage of the educational materials like laboratory equipments, libraries, text books, photo copy machines, etc,
- The traditional face to face methods of teaching which can be improved, including student centred learning (ELDahshan, 2009)
- Closing the knowledge gap that has existed since the 1980s between Iraqi universities and those in some neighboring countries and in the West...
- Starting to use the new educational technologies in order to increase the efficiency of the learning process.
- Rebuild the university infrastructures with ICT capabilities as the international universities in the world.
- Student problems, like student absence, differences in cultures, differences in political backgrounds....etc.

Objective of the research

The main objective of the research is in the fixing of the Technological software's need according to the proposed complete e-learning system for the University of Mustansiriyah (UoMust), according to the university needs to put the educational tools in the hands of the subject matter expert in an attempt to leverage technology and knowledge to build quality e-learning system in a short period of time.

Methodology

The idea of this research is to investigate the academic staff experiences and opinions regarding the implementation of full scale e-learning system. The model that has been used is the Analysis, Design, Development, Implementation, Evaluation (ADDIE) model and a waterfall design approach was considered for UoMust as shown in Figure 2. An ADDIE ring model was considered for the technological part of the research, as shown in Figure 3.

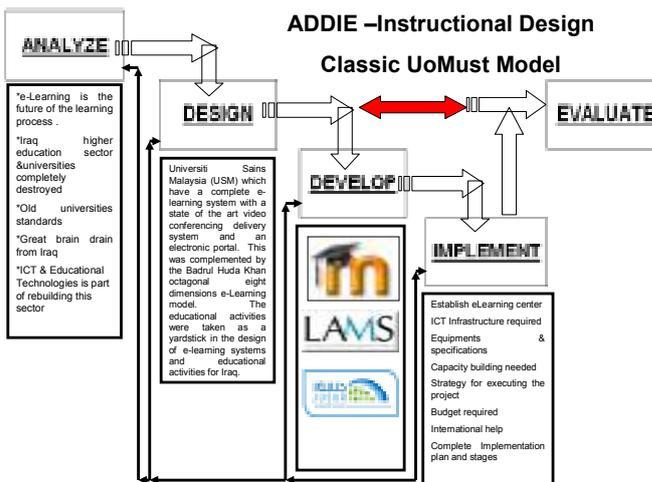


Figure 2 The instructional UoMust ADDIE instructional waterfall design

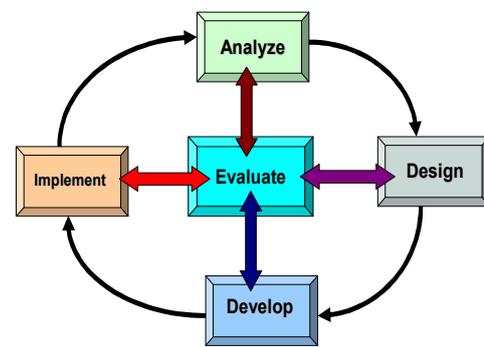


Figure 3 The instructional UoMust ADDIE instructional ring design

Analysis

The study was based on two data sources; the previous studies about the Iraqi higher education sector (Bank, 2009; Harb, 2008; Husain, 2004; Kubba, 2009), interviews and all related documents. A clear set of contrasts has become apparent from these two data sources set out the framework of the research.

Design and Development

For this purpose the research was led using the Badrul Huda Khan octagonal theoretical model for e-learning (Khan, 2005, 2006) The eight factors in this model have then been grouped in three major domains: educational, technological and organizational (Grewal et al, 2005; Kurti, 2008)

e-learning model

In Iraq, it is a challenge to change the traditional teaching styles directly. It needs the initial organization and the preparation (Masami, 2006); this preparation will take place by adopting the e-learning as a support activity to face to face teaching in the form of self study (Abualsaoud, 2009; Al-Busaidi & Al-Shihi, 2010; Chendeb & Nasr, 2010). This was complemented by the Badrul Huda Khan octagonal eight dimensions e-Learning model and this model have then been grouped in three major domains: educational, technological and organizational . The educational activities were taken as a yardstick in the design of e-learning systems and educational activities for Iraq. The e-learning systems are based on Moodle software with the concept of offering courses for the students and control their activities (LAMS) which stand for Learning Activity Management System and is used for designing, managing and delivering online collaborative learning activities. This is done through a visual authoring environment for creating sequences of learning activities. These activities can include a range of individual tasks, small group work and whole class activities based on both content and collaboration (Dzakiria et al, 2006)

The elearning model for the UoMust with details of the activities is shown in Figure 6. This theoretical model was followed with an empirical study using a questionnaire and mail interviews as data collection techniques. The questionnaire was collected from 350 academic staff member in UoMust focusing on issues regarding the educational and technology domain. The mail interview was conducted with two teachers, but the technological domain was addressed more from an attitude and requirements perspective. This approach was needed because none of the interviewed teachers have had previous experience with an e-learning system (Birch & Burnett, 2009).

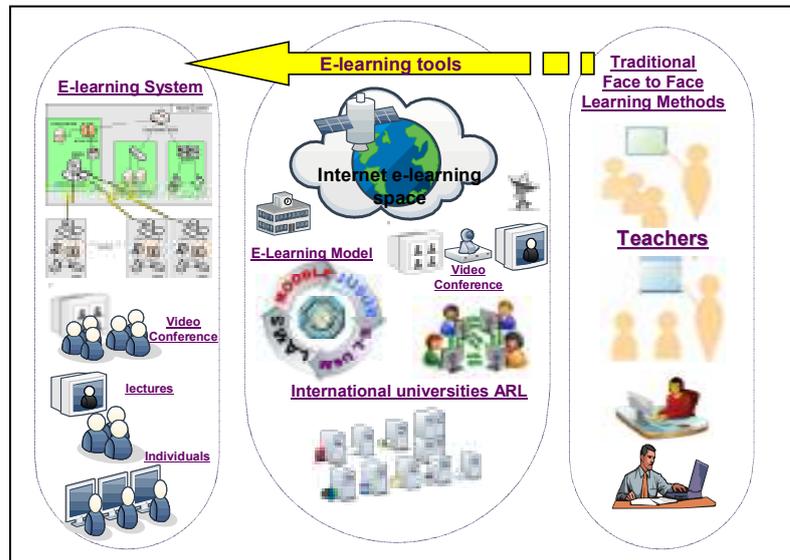


Figure 6 The elearning model for the UoMust

The model is not only about delivering the courses through the web; it is about managing the whole learning process including students' registration and progress reports. The methodology makes use of various technologies to enhance or transform the learning and teaching process, achieving real educational value, and reaching a larger, more diverse learner population with minimal expenditure (Bowles, 2005). With a Learning Management System, or LMS, training and e-learning are managed by the LMS software allowing users and administrators alike to easily access courses and reports.

e-Learning in the School of Distance Education at USM

The School of Distance Education in USM pioneered distance education in 1971 and now have an e-learning system that use LAMS in its system activities (Fig. 4). Researches their discover that in order to ease the transition towards the e-learning system, there should be an appropriate pedagogical training focus on issues regarding the formulation and design of the new learning environment . In USM-School of Distance Education they have a complete e-learning system with a state of the art video conferencing delivery system and an electronic portal and that create a real electronic learning environment for the learners without any difficulties.

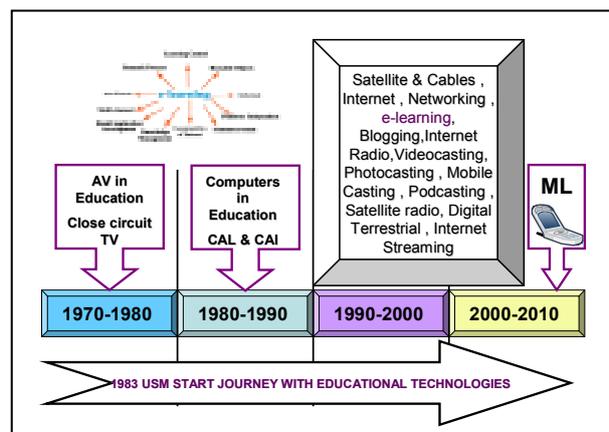


Figure 4 USM journey with the educational technologies and e-learning



Moodle software

Moodle is an Australian free CMS released in 2002, and was called Moodle 1.0. This software was designed and created by Martin Dougiamas, a WebCT administrator at the Curtin University of Technology in Australia. It was designed to be a typical database driven web application which does not require a client to be installed since it only uses web browser for displaying the information (Kurti, 2008). The name of Moodle come from the wards **M**odular **O**bject- **O**riented **D**ynamic **L**earning **E**nvironment and it is a Australian online e-learning system software which was designed from two basis components, the MySQL (Structured Query Language which is one of the world's most popular open source database) and PHP.

LAMS

Another Australian free software inventor is Professor James Dalziel from Macquarie E-learning Centre of Excellence (MELCOE) in Macquarie University, Australia. The first copy of the free software called LAMS v1.1 was released in February 2005. This was the first open source version of LAMS, and in December 2008 they released LAMS 2.2 coincide with the 3rd International LAMS Conference in Sydney, Australia. This version included the Tool Wrappers for external tools (such as Moodle) and in LAMS 2.3 other features and improvements (all LAMS releases are also open source). This software is a revolutionary new tool for designing, managing and delivering online collaborative learning activities. It provides teachers with a highly intuitive visual authoring environment for creating sequences of learning activities. These activities can include a range of individual tasks, small group work and whole class activities based on both content and collaboration (Almazroa & Alkhudair, 2009)

Jusur LMS System

Jusur is an LMS designed by the National Center of E-learning and Distance Learning (NCeDL) in the Kingdom of Saudi Arabia (KSA) in order to manage the E-Learning process. This software which is based on METEOR-OUM's, the Malaysian Open University popular LMS , and this software which its first copy is released in 2007 in the first year under the contract between Malaysian METEOR Company and Ministry of higher education in KSA which commenced at the end of 2006. Using the Jusur system, users can log on and easily access the training courses. As the student completes the course, scores are tabulated and reports generated. Likewise, managers and administrators can access reports on the LMS and track the students' progress. Jusur also has a learning content management system (LCMS), which is a system that can access learning object repository which enable subject matter experts, with little technology expertise, to design, create, deliver, and measure the results of e-learning courses rapidly. LCMS applications fundamentally change the value of e-learning content delivery by offering a scalable platform to deliver proprietary knowledge to individual learners and researchers. This software was evaluated widely by a lot of researchers and expertise and (Al-Khalifa, 2009) stated that JUSUR LMS appears to be user friendly and easy to use, besides using the system has increased the students confidence in the technology (Asirvatham et al, 2005; Bates, 2001)

The Instrument & Statistical Procedure

The data was collected by two preliminary questionnaires that were divided in to two parts; the first was the general and personal questions and the second was related to the technological needs to the e-learning in Iraq higher education sector and UoMust. The questionnaires Validity have been achieved in two ways (Mohammad, 2008).

Apparent and Discriminant Validity

To do this type, the questionnaires were submitted to 6 Professors, 2 from USM, 4 from Iraq from different universities in Baghdad. And are experts in the field of IT, measurements and evaluation, educational technologies, management and most of them are decision makers. Their expertise was sought regarding the clearness of the statements, the relevance of each item to its topics and the research. Therefore In the light of the judgments, remarks, notices, and comments, some statements were deleted and some were re-worded and others were added.

For the discriminant validity this was achieved by applying questionnaires to pilot group of academic staff members .The highest and the lowest of the means of 25 % of the responses were collected in order to find out if there were any statistically significant differences, and t-test was used to examine the



differences between the means. There was a difference of 0.05 between the means showing that the developed questionnaires were valid for the study.

The questionnaires Reliability

It was checked by a random group of 20 faculty member and their names were written on the questionnaire. After three weeks the same instrument was applied on them. The correlating factor between the total score of the survey sample in the first and the second applications were calculated and the correlation coefficient was 90 % which indicated a high correlation.

Sample & Population

The target population for the first preliminary questionnaire consisted of all the faculty academic staff members in the 12 colleges of the University of Mustansiriyah. 287 completed questionnaires were received. The second preliminary questionnaire consisting of 35 statements was distributed between 250 of UoMust senior academic staff with a return of 160 responses. There was 112 Associate Professors (PhD holders) (80 female and 32 male) and 48 Professors (30 male and 18 female). All the respondents have more than 15 years public service in the Iraqi higher education sector but are now in the UoMust senior academic staff.

Likert Scale

All these statement were placed into Likert scale : Strongly Agree (SA) -- 6, Agree (A) - 5 ,Neutral (N) - 4, Disagree (DA) - 3 , Strongly Disagree (SDA) - 2, Don't Know (DK) – 1 (Khater, 2008).

Statistical Procedure

All the questions answers and the data that had been taken from the questionnaire were computerized using the Statically Package for Social Science (SPSS) and enter to the computer to be statistically calculated to find the (Mean(M)), Standard deviation (SD), Percentages (%), Chi Square , T-Test. All the results from the SPSS were used to examine the technological needs and challenges that could face the e-learning system implementation in UoMust.

Results & Discussion

The analysis of the data showed a generally positive attitude among academic staff for an e-learning system and also raised some important issues that should be taken into consideration while implementing e-learning system. The results answer the questions:

What is the real situation of the ICT in higher education sector & universities?

For the side of technology, Iraq has numerous up to date technologies like computers, servers, satellites, ..etc, but still lack the infrastructure for using these technologies. The result showed that *“there are no networks at all in UoMust, no digital library , weakness in the numbers of computers and in great need to be increased, no special network for UoMust staff or students, no main network between Iraqi universities , no wireless networks inside university campus, weakness in the numbers of Internet connections that students can use, ..etc”*. The results are shown in the Table 1.

Table 1 Preliminary questionnaire results related to the real situation of the ICT in higher education sector & universities

Statements	SA	A	N	DA	SDA	DK	mean	%
All Iraqi universities have a good numbers of ICT technical staff	21	50	97	28	3	88	3.28	1.691
The technical staff are well trained	42	28	86	25	21	85	3.26	1.789
They can achieved all the responsibilities assigned	40	60	65	48	22	46	3.67	1.626
There are a big numbers of computers , computer labs and internet connections in all of the Iraqi universities , and are not lacking in this field	13	26	28	24	190	6	2.71	1.238
There are a good numbers of computers in the administrative offices	8	18	19	21	34	187	1.85	1.409



Each staff have its own computer for his daily work and it is connected to the main university network	4	4	16	48	201	14	2.32	0.826
All the Iraqi universities have it own computer network	0	0	52	128	63	44	2.65	0.947
All the Iraqi universities are connected in one higher education network	0	0	45	136	102	4	2.77	0.720
All the Iraqi universities have its own wireless network and it is with a good bandwidth that cover all needs inside these universities campuses	0	0	47	152	85	3	2.84	0.692
All the students are allowed to use the wireless network inside these universities from their private laptops	0	0	11	137	136	3	2.54	0.588
There are a good numbers of internet cafes and connections to cover the needs of the students and university staff	22	45	19	18	181	2	2.96	1.430
There are a good computers maintenance centers inside each universities	25	36	89	10	73	54	3.19	1.604
There is a good electronic library and virtual library inside each school and department instead of main big library supplied with all ICT needs from A to Z.	0	20	78	21	166	2	2.81	1.052
All the student affairs and academic achievements works are itemised from A to Z by using ICT.	0	0	17	126	136	8	2.52	0.651
All the academic universities staff science works like researches, projects are likely to be done with ICT.	35	175	12	13	30	22	4.36	1.456
All the universities are itemised by ICT	7	13	129	19	116	3	3.18	1.124

Are the higher education sector & universities in Iraq ready to accept the e-learning?

Till now, it is not easily said that the Iraqi higher education sector can accept an e-learning systems because of the missing ICT and networks infrastructures and communications and the old traditional ways of management especially in the governmental bodies. E-learning is not some A/V information's in computer screensetc; it is an education digitized system with specific demands on the technical support system. The result showed there is a real need to increase governmental budgets to universities, no instructional media and educational technologies offered till now, universities standards must be changed according to the international universities standing, as illustrated in Table 2.

Table 2 Preliminary questionnaire results related to whether the higher education sector & universities in Iraq ready to accept the e-learning

Statements	SA	A	N	DA	SDA	DK	mean	%
The universities budgets are enough to develop the Iraqi universities.	43	66	17	53	20	88	3.28	1.885
All the classic instructional medias are offered to the lectures in the class rooms	80	180	2	9	13	3	5.03	0.994
All the update technology are offer also to the lecturers in the class rooms like computers , data show , and all other multimedia instruments	3	14	69	97	102	2	3.00	0.957
It very important to stop any kind of illegal dealing with software for the using of the ICT	22	29	138	56	8	34	3.64	1.289
Encouraging the Iraqi government to announce	251	7	13	0	0	16	5.60	1.203



the law that protect the authors from stealing their offers especially in ICT								
All the Iraqi universities standards are similar to those on the international universities standards especially those related to the academic affairs	29	90	44	32	82	10	3.72	1.489
All the educational foundation in Iraq has the capability to accept the modern and advanced educational technology and have all the requirements that needed.	14	21	16	27	192	17	2.56	1.227
It is better to use the English language as dialogue language in any using of educational technologies in the learning process especially in the e-learning process.	35	38	32	68	111	3	3.33	1.436
The first step for any using of educational technology in the Iraqi universities is to supply all the class rooms with all the updated computers, data show, OHP, TV and audio system. And train the lecturers and push them to use it.	215	40	19	8	2	3	5.56	0.917
It is very important to push the university's academic staff to use the educational technologies in the learning process.	217	23	26	6	15	0	5.46	1.089
It is better to establish an e-learning centers in all of the Iraqi universities	194	18	53	6	7	9	5.25	1.268
It is better to establish academic centers for educational technologies	194	18	53	6	7	9	5.25	1.268

What are the directions towards e-learning in Iraq?

All the universities in Iraq are moving towards e-learning nowadays. There are a strong believe that e-learning provides the shortest way to develop Iraqi higher education and universities. Also the university has started to train its academic staff in ICT skills and one will have to have basic ICT knowledge to be a university academic member. USM can provide assistance to UoMust in this training and will utilize the video conference facilities to deliver lectures and expertise. The results are shown in Table 3.

Table 3 Preliminary questionnaire results related to the directions towards e-learning in Iraq

Statements	SA	A	N	DA	SDA	DK	mean	%
I believe that E-Learning is the future of the learning process	197	4	19	22	39	6	4.97	1.620
I believe that E-learning is a new thing and it is the best if I adopt a wait and see the attitude	197	4	19	22	39	6	4.97	1.620
I believe that E-learning should be adopted by the ministry of higher education and the universities head quarters and we should work towards making it success.	67	63	41	34	77	5	3.97	1.581
The universities have encourage the lecturers and tutors to incorporate technology into instruction	67	63	41	34	77	5	3.97	1.584
I believe that all colleagues in the university are ready for E-Learning deployment	208	50	8	3	10	8	5.45	1.606
I believe it is very important to send the professors and lecturers to outside Iraq universities to see the e-learning and other technology and how they used it	287	0	0	0	0	0	6.00	-



Universities have to encourage their professors to do researches in and about e-learning in Iraq	45	93	16	50	78	5	3.86	1.536
It is best to use one system for student's registration in the Iraqi universities.	191	9	17	26	40	4	4.95	1.603

Do we need to ask help from the outside Iraq world to establish e-learning?

It is better for UoMust to benefit from more experienced institutions in implementing an e-learning system. The results showed a high response to seek assistance from the universities with established e-learning framework. It is also the opinion the UoMust could not do it alone taking into account the weakness of the private sector and other Iraqi universities experience. The results are shown in Table 4.

Table 4 Preliminary questionnaire results related to the asking help from the outside Iraq world to establish e-learning

Statements	SA	A	N	DA	SDA	DK	mean	%
It is better to link the Iraqi universities to an international e-learning network till establish a domestic e-learning network in Iraq for the higher education sector.	187	30	18	4	45	3	5.04	1.534
It is important to design the universities websites similar to the international universities and especially in the using of e-learning and e-gates.	179	37	9	33	24	5	5.04	1.467
It is very difficult to try to install e-learning system without international help from outside Iraq	46	69	14	73	79	6	3.69	1.525
It is very important to import the experience from the international universities and try not to start from zero point	287	0	0	0	0	0	6.00	-
It is better to ask the UN/World Bank to help the Iraqi Higher Education project for establishing e-learning network	213	11	15	3	32	13	5.15	1.598
The Malaysia e-learning experiments are one of the best in all of the world in this field	21	6	25	46	11	178	2.06	1.578
USM e-learning standards are best in all of Malaysia	24	28	12	0	0	223	1.93	1.779
There are a wide area of freedom in Iraq and there is no limit against any kind culture or science building	287	0	0	0	0	0	6.00	-
There are many Providers of e-learning materials in Iraq	0	0	7	140	17	123	2.10	1.002

Are the academic staffs ready to use e-learning in UoMust?

The academic staff ICT skills in most of the Iraqi universities is not adequate to implement and execute e-learning system proposed for the university. A very low level of e-learning software use could provide a good starting point and this adjustment will come from the capacity building for the human resources. The results are shown in Table 5.

Table 5 Preliminary questionnaire results related to the readiness of the academic staff to use e-learning in UoMust

Statement	Mean	Percentage%
I think the best way is to use the CAL with the face to face traditional learning methods at the beginning	5.34	89%
I have a lot of information about e-learning networks	2.65	44%
I know how to use all the MS Office	3.38	56.3%
I know how to use MS Word	5.58	93%
I know how to use MS PowerPoint	4.83	80.6%
I know how to use MS Excel and MS Access	3.16	52.7%
I know how to use Moodle software	3.06	50.9%
I know how to use LAMS software	3.06	50.9%
I know how to use JUSUR software	3.06	51%
I have a connected in computer my office in university	3.25	54.1%
I will use the educational technologies if it is offered in the class rooms	5.53	92.1%
A lot of training ICT courses are offered for the academic staff	3.49	58.2%
I use ICT to organize and manage my work	4.88	81.4%
I use ICT to prepare lessons	4.8	80%
I use ICT to find digital learning resources	5.82	97%
I use ICT to design and produce my own digital learning resources	4.35	72.5%
I use ICT to communicate with colleagues	5.35	89.1%
I use ICT to communicate with your pupils	5.35	89.1%
I use ICT to communicate with school management and educ. administrations	3.14	52.3%
I feel confident with ICT and would like to use it more effectively	6	100%
I read all the up to date researches in e-learning	3.55	59.2%
I follow all the up to date technologies in e-learning like e-learning and M-learning...etc.	3.81	63.6%

 Poor

 Medium

 Very good

 Excellent

Conclusion

Many educational institutions especially in the third world countries lack the necessary resources to build e-learning systems to either offer complete courses online or supplement classroom courses. In Iraq this is the case where most of the universities budgets are allocated for wages and salaries (Harb, 2008) and there is a lack of ICT resources. After wars and sanctions, the UoMust is restarting their educational technology capabilities to enhance the learning in its colleges and centers. Nonetheless, a gallant effort is under way to revitalize the educational environment as shown in the feedback by the academics.

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