Project

Online Platform for Academic TEaching and Learning in Iran & Iraq - OPATEL

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Implementation of Learning Management System
at Salahaddin University-Erbil

Prepared by OPATEL Team at Salahaddin University-Erbil

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ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

UNIVERSITY OF DUHOK

SALAHADDIN UNIVERSITY

DUHOK POLYTECHNIC UNIVERSITY

University of Basrah

TEHRAN UNIVERSITY OF MEDICAL SCIENCES

CONSULTORES ASSOCIADOS, LDA P&B

This booklet is a brief outline and description of Salahaddin University-Erbil activities during the three years implementation plan (October 2017-October 2019) of Erasmus+ OPATEL project.For more information ,please see the links:
https://su.edu.krd/erasmusplus-OPATEL/activities ; https://colleges.su.edu.krd/science/moodle-workshop/
And https://sites.google.com/a/su.edu.krd/erasmusplus/opatel--leipzig-university-of-applied-science

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Introduction:
The advancement of information technology and computer science has led to the radical changes in the education system all around the world. Nowadays, educational institutes have embraced the new technological tools to promote the education system which reflects in the student's success; therefore, Salahaddin University-Erbil also has embarked on this journey to move toward the employment of technological tools to transform the university in the future.

Recently, Salahaddin University-Erbil (SU) has established an E-learning training Centre, with the support of Erasmus+ OPATEL programme of the European Union, at the SU Research Center, coordinated by Leipzig University of Applied Sciences, Leipzig-Germany. Learning Management System (LMS) Moodle training workshop is weekly held in the Erasmus+ Training Center Lab. During the implementation of Erasmus+OPATEL project (October 2017 to October 2019), over 900 instructors from all fifteen colleges at SU have participated in these workshops. The participants have been trained on how to employ LMS Moodle platform features to create interactive online courses for their students. Using Moodle platform, instructors are able to add miscellaneous activities and resources to their courses, which help students to engage and interact with and better understand course materials.

E-learning Laboratory at Salahaddin University-Erbil:
The advance in modern technology has a great impact on various aspects of human life in general since innovations have facilitated our daily activities. For instance, now, almost everyone possesses a smartphone, which is the product of human-produced knowledge that can be used to communicate with relatives and friends around the world. Those innovations have come to reality by the efforts and painstaking work of thousands of researchers around the globe. The ceaseless endeavor of curious people has made this life a lot easier. The human-pioneered discoveries and findings have been exploited to progress the education process as well. In order to continue the progress of science, we have to come up with novel approaches in the field of education. Nowadays, the educators of many academic institutions around the world have

adopted new gadgets in their classes, such as using PowerPoint presentations, Projectors, Learning Management systems (Moodle) and iClickers. Recent technological advancements have also left impact on the education system. For instance, electronic learning (e-learning) has widely embraced and exploited in modern education system; hence, our institution has enthusiastically adopted the unconventional and the state-of-the-art techniques in education system.

Therefore, Salahaddin University-Erbil (SU) has established an E-leaning Laboratory, with the support of Erasmus+ OPATEL programme of the European Union, based at SU Research Center. This Laboratory, which is furnished with a carpet, twenty computer desks, and twenty rotary chairs, has twenty *hp* desktop computers, which are connected with each other through a server. There is one Cannon brand color laser printer, which can be used to print handouts for the prospective workshop participants. In addition, this lab is equipped with a Sony Brand data show projector that can be employed during the workshops to present interactive data to participants. Also, there is a Lenovo laptop for the instructors to use it during lecture times. When the educators upload their course materials, those files should be available for the student all the time; otherwise, students cannot obtain their course materials. For this reason, the server has to be online on clock. Now, we have obtained a fast internet line (20MB) with the support of the Ministry of Transportation and Communications-KRG, Directorate of Internet Networks.

This laboratory has been established to train the instructors at the SU on how to use Learning Management System (LMS), such as Moodle. Moodle is free and open source course management software that is used by many institutions around the world. The SU instructors can take advantage of this freely available software to manage their courses online. They can upload lecture slides, videos, quizzes onto the server that is located in the SU Research Center. Afterwards, students can have their own log in and passwords to be able to access to the materials of respective courses. Furthermore, LMS system can be used to give online lectures. As we know that the education level of all the students are not the same. It is very challenging to relay the course knowledge to all the students alike, when you have a diverse group of students in terms of education level in the class. Therefore, the main aim of this project is to train as many as instructors possible to show them how to use LMS platforms to manage their respective courses which in turn this will help instructors to improve their communications with students. Also, this project aims at decreasing the effect of knowledge gap found in a diverse class. For instance, some students are fast learners and other need more time to have a firm understanding of a lecture. When the lecturers use LMS system, students can go back to lecture slides or videos and review them again until they will have a good grasp of the topic. This makes the education process more interesting and will increase the success rate of the students which is the ultimate goal of education system. Ultimately, the college graduates can better serve their fellow citizens from different walks of life.

Chronological order of the e-learning lab development:
The design of the network was prepared by the Network specialists. All the cables were setup and all the computer were connected to the channel board in the server box. Now each computer has its own socket and network connection socket.

All twenty computers were assembled; the original Windows operating system, alongside other applications, was installed and configured on each desktop computer.
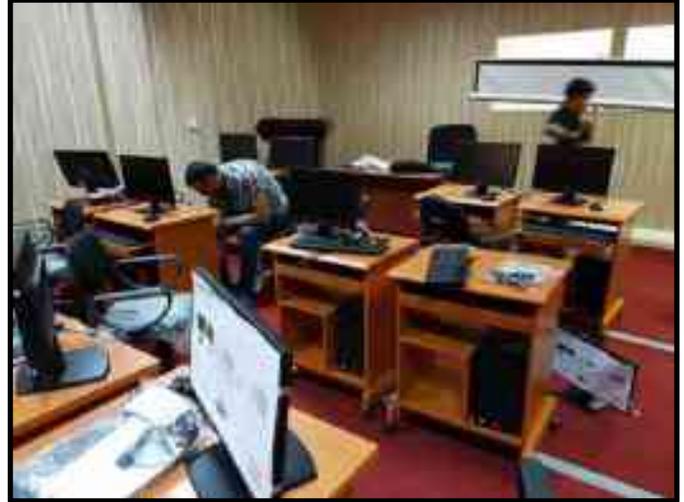
The switches were configured, points were accessed and then the patch panel connected with the switch then to the computers; finally, configuration of the server was completed.

The European Union logo was put on all the items in the lab.

All the items needed for the internet line was setup and the lab has 20MB internet line.

The final stages of the Lab development

Needs and challenges in the field of Internet and Communication Technology (ICT) and e-learning platforms at SU

Salahaddin University-Erbil (SU) is a public institution, which was established in 1981 and is located in Erbil city, Kurdistan Region, Iraq. Now, it has 15 colleges in various fields of science and humanities. Currently, there are around 26000 undergraduate students and 500 postgraduate students pursuing their degrees at SU. Our institution encourages the use of modern internet and communication tools to enhance contemporary learning platforms to facilitate the communication between teachers and students. For this purpose, the Avicenna E-learning Center-Erbil was established at SU to live up to its expectations in promoting e-learning across the campus. Many teachers participated in e-learning workshops and they were trained on how to use e-learning platforms to manage their academic courses and assess the progress of their students. However, due partly to some technical shortcomings, we could not take advantage of this center to its full potential; therefore, we still have some issues with e-learning system in our institution. In order to tackle those issues that have become an obstacle in the way of e-learning progress and to gather information in regard to the needs and application of Learning Management System (LMS) in our institution, we have performed a questionnaire in three different colleges at SU.

The outcome of the questionnaire performed at SU:

1. **Participants Background Information:**

To obtain an idea about the needs of our lecturers in ICT and e-learning platforms, we prepared a questionnaire using SurveyMonkey website and then we sent it out to the lecturers of three different colleges (Engineering, Science, and Basic Education). We received 72 responses across those three colleges. The data were automatically analyzed by the SurveyMonkey website. The majority (51.43%) of the lecturers who responded to the questionnaire were in the age range of 30-39. This shows that young lecturers are more comfortable with using internet-related tools.

Both male (54.29%) and female (45.71%) instructors took part in this survey as well.

Lecturers at various colleges (and various departments within each college) answered the questions in the survey. The participation of various colleges in this survey is advantageous since we can look at the e-learning needs from the perspective of various levels of education fields, from engineering, to basic education. This type of survey gives us a significant and clearer view about the e-learning needs of our institution at large. Now we can enlist those needs that are considered as priority to our institution, which lead us to a better conclusion in turn we can come up with better approaches to solve our problems regarding e-learning.

It is of utmost importance we point out that the communication between teachers and students would be a challenging task for the instructors in large classes, which is mostly the case for majority of the lecturers at our universities. The results of the survey showed that the majority of the lecturers (88.41%) have more than 20 students in the class. Lecturers in our institution usually teach in lecture halls that have 70-110 students on average. These large classes are due to the high admission rate to colleges, which do not have capacity and necessary equipment for all those students. Sometimes when students cannot understand well from the class due to the overcrowded classes, they might not be able to ask questions about the topic that is not comprehensible to them yet, which results in inefficient learning process. In this case, it is crucial that lecturers embrace the-state-of-the-art e-learning technologies to improve their communication with students, which would make them more efficient teachers in terms of class time management, taking attendance and daily quizzes using Student Response System (SRS),

such as iClicker, posting home-work assignments and student's exam grades on Moodle, assessing student's progress.

There are various types of Learning Management Systems, such as Blackboard, Canvas, and Moodle. According to our survey, most of the lecturers use Google application (69.01%) since this application is adopted by our institution as the main platform for teacher-student interaction. All the teachers are required to have Google site, which unfortunately is effectively used by a limited number of teachers. Also, according to the results of the survey, a small percentage of the lecturers use Moodle (15.49%), which is a free and open-source LMS platform; the usage of other e-learning platforms is less common as well (15.49%).

2. ICT use hindrances in teaching and learning

There are many factors that impede the progress of e-learning system in SU. The participants of the survey (34.72%) believe that an inadequate number of computers on our campus is one of the reasons that holds us back from using e-learning platforms. More importantly, the results show that 43.66% of the survey participants think that the scarcity of computers connected to internet hampers the broad usage of ICT by the educators across the campus. To use e-learning effectively, teachers and students should have access to internet most of the time, especially on campus and in dormitories. This way the academic courses can be managed through online platforms, and teachers would be able to communicate with students in a better way. Furthermore, it appears, according to the survey, that there are other issues that have become an obstacle to the use of ICT, for instance insufficient numbers of laptops and outdated school computers, which make the educators and students to lag behind; therefore, it would be challenging for the teachers and students to keep up a pace with the fast advancing world of information and communication technology. Also, the data show that teachers do not have proper training of ICT use.

3. Teachers Skills: The confidence level of the lecturers in using ICT

According to the results of this survey, it seems that most of the participants are familiar with some widely used ICT tools, such as word processing, Excel spreadsheet, using email, downloading and installing a software on a computer, searching for online resources; however, most of the participants are not adept in programming, creating a questionnaire online, and

creating websites. Those skills can be improved by workshops that should be available for the educators.

4. ICT based activities and material used for teaching

The results of this questionnaire demonstrate that majority of participants know how to surf and gather information online (55.56%, 43.66%, respectively). However, 29.17% of participants have never posted a homework assignment on the college websites and 22.22% of them have rarely posted home-work assignments on college websites. Also, the results indicate that majority of teachers do not use online-based student assessment process. In addition, 31.94% of the participants have never used and 27.78% sometimes have used school's website to download, upload or browse for teaching materials.

5. ICT-related materials used by the teachers in the classes

The participants use internet to prepare their calsses (92.96%) and they obtain and use recources from other institutions websites around the world (85.71%); although, it appears that they do not use school's computer network to obatin materials for their classes. The computer network of our instituiotn needs a lot of improvement to provide beneficial materials to our teachers and students alike.

6. Concluding Remarks, Recommendations, and Future Perspectives

As the results show that there are many aspects of ICT use in learning and teaching should be worked on and improved in our institution. Teacher's skill of ICT in learning and teaching needs to be improved through holding various meetings and workshops. Also, teachers and students have to have access to computers which are connected to internet networks. Also, teachers should be encouraged and given incentives to post students homework assignments on college websites, and to integrate miscellaneous ICT tools into their courses.

The dearth of basic ICT infrastructure, such as internet networks, computers, management system, funding and support, ICT resources, professional training in IT field, has an impact on our institution to achieve its goals in reaching developed countries to systematically implement ICT technology all over the campus. The scarcity and inadequacy of the above-mentioned means impede the adoption process of ICT.

The significance of ICT technology implementation can be accomplished by performing few steps. Firstly, embracing the ICT technology and investing it in finding means that make educators to adopt ICT. For instance, a group can be made for the teachers where they can discuss their ideas and challenges regarding the ICT in learning and teaching. They can have forums to point out the advantages and disadvantages of using ICT in their classes. This can be achieved by doing academic research on ICT use in teaching. Secondly, establishment of e-learning center in our institution emboldens teachers to use Learning Management System (LMS) tools in their own respective fields. Most of the features, which are detailed below, can allow the e-learners to become more productive in exchanging their knowledge and viewpoints with their fellow colleagues:

A. Problem base creating groups of students.

Students can work as a team to solve and analyze problems that are given for a specific topic, and consequently they would be able to come up with the best answers for their assigned task as a group.

B. Information exchange between leaners

Fostering the spread of using ICT on campus by encouraging students to visit and use learning websites, such as Moodle, is a great way to make this project a big success. This can be accomplished by providing the necessary facilities to the students to share their interest and skills, which make the educators have a comprehensive idea about their learners when they are getting into a challenging task.

C. It is highly recommended that the exchanging materials, such as email records and chatting, between learners or educators, are stored well in designated locations to find it easily later on when they are needed and for the purpose of documenting the intellectual properties of teachers and students alike.

D. ICT can be exploited to follow daily schedules properly and to benefit from time-management features for both learners and educators. The educators can organize the time table for lectures and tests. In this case, the students can have a discussion with their educators to agree on a modification in the time-table when it is necessary. The visiting

rate of the LMS websites can be improved by posting the updates of class activities, uploading test scores, and urging rivalry between learners, which turns them into critical thinkers. Finally, electronic learning process in our institution is confronting many impediments. For instance, students don't have a good grasp on their score metrics, such as how their grades, units, or credits are calculated; therefore, the adoption of ICT technology by the college examination centers will prove beneficial to our institution and will save it a lot of money in the process.

A SUMMARY OF NEEDS OF SALAHADDIN UNIVERSITY-ERBIL:

1. Increasing the experience of lecturers in using e-learning system for large classes.
2. Holding workshops for lecturers to learn how to use Learning Management System such as Moodle.
3. Providing all students with Salahaddin University-Erbil (SU) domain email accounts.
4. Improving lecturers' skills to better communicate with students through e-learning system, such as taking attendance and daily quizzes using Student Response System (SRS).
5. Providing internet access to all lecturers and students on campus and in dormitories.
6. Increasing the number of computers connected to internet, accessible to both educators and students.
7. Boosting the idea that learning essential computer skills, such as programming, creating a questionnaire online, and creating websites, are indispensable factors for the success of ICT and e-learning system.
8. Supporting lecturers by training them on how to be more confident in using ICT in their respective courses and how to be more interactive with their students through using e-learning system.
9. Establishing a computer network on campus that can provide useful materials to educators and students alike.
10. Encouraging teachers to post course-related materials on college websites, and to take advantage of miscellaneous ICT tools in their courses.
11. Creating a forum for lecturers where they can exchange their point of views and discuss their ideas and challenges with other lecturers around the world regarding the use of ICT in learning and teaching.
12. Promoting the adoption of ICT technology by the college examination centers which will prove beneficial to our institution.
13. Using the ICT tools for teacher's evaluation process by the Quality Assurance Directorate. Also, using e-learning tools to assess the academic progress of the students.

Learning Management System-Moodle Workshop program

The aims of the Moodle workshops:
- Use Moodle as an LMS tool to enhance teaching.
- Analyze students' requirements and come to an understanding of what Moodle can do for them.
- Use Moodle features to meet your course goals.

OPATEL training workshops: Erasmus+ OPATEL project held many training workshops on e-learning and Learning Managments System(LMS). Salahaddin University team participated in these trainings, as follow

1- Workshop at University of Petras-Greece. SU team participated.
2- Workshop at ISPAB-Portugal. SU team did not participate because of the visa refusal by Portugal Embassy.
3- Workshop at Tehran University of Medical Sciences. SU team participated.
4- Workshop at Salahaddin University-Erbil. SU team participated.
5- Workshop at Leipzig University of Applied Sciences. SU team participated.

Moodle Training Activities:
- At Salahaddin University-Erbil (SU) Research Center, LMS Moodle training workshop is held weekly in the Erasmus+ Training Center Lab.
- The training course session starts from 8:30 am to 10:30 am on Mondays and Wednesdays of each week.
- So far, we have held 57 sessions of Moodle Training and 5 sessions of Moodle Site Administration Training.
- About 20 lecturers participated in each session.
- The training course consists of two parts:
- Importance of e-learning
- Step-by-step Moodle training

Course Materials in Moodle:
- Moodle enables you to add several kinds of course materials:
    - Static course material.
    - Interactive course materials.
    - Social course materials.
    - And many more activities and resources

Moodle webpage at Salahaddin University-Erbil

http://moodle.su.edu.krd/

Moodle Training Activities Tutorial http://colleges.su.edu.krd/science/moodle-tutorial-for-teachers/

Group Photos of the Moodle Workshop participants

A group of lecturers from College of Law and Political Sciences participated in Learning Management System-Moodle workshop.

A group of lecturers from College of Arts and Languages participated in Learning Management System-Moodle workshop.

A group of lecturers from Colleges of Fine Arts and Physical Education participated in Learning Management System-Moodle workshop.