Baghdad Blended Learning Platform For Iraqi Higher Education

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ABSTRACT

Baghdad wants to remember its beautiful history when it was the capital of knowledge and wisdom and aiming to be an e-learning city in 2022. Iraqi society, despite all the conditions digitally are growing up and continuing their movement towards building knowledge society without any noticed influence from the government. Iraq as a country ranked in the 155 position between the world countries according to the United Nations e-government survey 2018, and also according to the ITE statistical reports 95% of the Iraqi people have cell phones (82% according to the World Bank reports) and more than 70% of these cell phones are smart phones. With 19% internet using growing up percentage between Iraqi population. Such numbers gives us the indication that Iraqi society can be an electronic society. Iraq as a country suffers from many problems and also the universities suffer from the lack of the up to date educational technologies adoption in its learning activities. Blended Learning is the key and the solution. An eLearning Platform was designed according to the Iraqi universities needs and problems. It contains more than 24 web designed e-learning applications towards blended learning adoption and a real electronic universities. The platform was named as Baghdad e-learning platform and tested in for more than three academic years in Iraq and it was designed according the e-education orbital framework which covers the sustainability issues that is required for the future of education in all of the world and it is the main target of the United Nation Development sustainable goals 2030. As a result, it was the first time and trial by any Iraqi higher education institution to adopt blended learning and social learning tools in its daily learning activities. In addition, the designed platform made a huge impact on its limited using but it is planned to expand its using in three universities in the next academic year in Iraq. The Edmodo Company has certified the Informatics Institute of postgraduate studies as a real learning society. Three different MOOC system applications were also designed and executed in the platform with a total number of students of 1400.

Keywords— Blended Learning (BL), Baghdad e-learning Platform, Electronic University, e-learning, Orbital Framework, MOOC, Lifelong Learning

INTRODUCTION

In general the electronic community can be defined as community that is witnessing a proliferation and real activation of electronic services All kinds and forms a community that has completed the construction and implementation of electronic projects, the creation of wired and wireless networks, the training of human resources and the deployment of electronic devices, especially mobile, and the strengthening and strengthening of the infrastructure of communications and computers And before these things is to prepare the community to accept these modern scientific and educational information technologies.

Exploring all the issues of e-learning engagement and community building has never been more important than within the information society we live in today. We are excited that our Iraqi e-learning growing community and the educators, researchers, and advocates will be tackling these important issues together at our BFIVS@eLEARNING2017 society. (Ahmed, 2011) (Elameer & Idrus, 2011).

Everything in the educational systems, in all of the world are changing quickly. Education systems nowadays are different from the same last year and they are follow the ICT revolution and gain the required benefits from its new productions. Schools and Classrooms are changing urgently nowadays in order to meet the new educational technologies using requirements (Abeywardena, 2013). Learning environments are now preparing learners for their destined work condition and environments in the future after graduation from schools. (Ahmed, 2011). Classrooms are changing away from rows of desks, to an environment that advertises cooperation between learners, teachers and learning tools. This called Optimized Digital Classroom. (Meinke, 2018). In order to execute e-learning, a school must figure the correct infrastructure. IT specialists in education, need to plan for the future and build a next-generation infrastructure that aids the e-learning environment and increasing technologies using. By this way and solutions overview, we can fix the critical elements need to build the real optimized Digital Classroom and prepare it for the mobile first learning using, and beyond.

Face to face traditional teaching method by its classical ways become useless even with its widely using in Iraq, because of the new learners digital culture, and we have to developed it to meet the new century needs and challenges.

Put all the educational electronic tools that needed in learning and teaching process together, still a dream to any teacher and far from reaching in the world. This research is a trial to solve some of these problems by design and implement a special e-learning platform according to the Iraqi universities needs and problems. New top e-learning world trends shown in the figure.1.

Figure.1: shows the top e-learning trends in 2018

IRAQI GOVERNMENT PROGRAM

In September 2014, the suggestive governmental program came with the main aspects of strategic priorities. Which were distributed among six aspects, that include improve the services and way of living for every citizen. Improvement of service and the way of living for the citizen, came with some basic points include "the development of education and research institutions". Education is the most effectual way to improve our society, every citizen had the right to learn and take his chance in education and higher education, support the student with high potential, return the community confidence in the

educational institutions. Ensure that the students is qualified to participate in community activities through the improvement in educational institutions and its staffs, the use of the new technologies to improve Education, Provide all the needs of schools, including the staff and equipment, Depend on the Vocational and technical education to meet The needs of the labor market.

In Iraq, We all committed to implement the program of Iraqi government as a Executives workers in the Iraqi government, the decision of making strategies in this country is a matter of Ministers Cabinet and not the decision of the executive employees, the role of Executive institutions confined with the implementation of these strategies, which came with the develop the quality of educational system and research institutions ((Improve The educational institutions and the method of teaching by using new learning techniques)) 5:((Keep up with electronic and technological developments In the matter of teaching and learning))".

RESEARCH PROBLEM

At the UNESCO conference on the development of the global educational reality in 2011 and with the start of the smart mobile revolution, one of the attendees said, "You have to pay attention, my son is now writing on mobile faster than I speak or write ". Iraq as a country was isolated and trapped in isolation almost complete and then after 2003 was plunged into many problems , but there was a lot of trying to promote and the evidence that there are many strategies written in 2003 and the World Bank and UNESCO conferences that launched from Beirut in 2004 and so far, such as the World Bank's National Strategy for Education in 2012-2020 and e-government plans and government programs of successive governments and was the latest government program of the current Iraqi government in September 2014, for the purpose of developing education in Iraq and the trend to build a sustainable development community reliance on digital information revolution. (Meinke, 2018)(McKenzie, 2017). Internationally as a result of the World Economic Forum in 2016 and 2017, sustainable development in today's world can only be achieved through learning and through the investment of information and communication technologies, especially in the field of education and pedagogical and we in Iraq as long as we seek to catch up with the global track. (McKenzie, 2017). To achieve the fourth goal of Global goals for sustainable development, We must adopt the experiences of the countries that preceded us in the development and advancement of their educational and pedagogical sectors, all of which have adopted Information and communication technologies and in their educational system, which can simply be achieved through the integration of Such as in Saudi Arabia, Egypt, Iran, Turkey, Tunisia, the UAE or other names such as national programs such as Malaysia, Thailand and Indonesia.(Ahmed, 2011).

FACTS ABOUT IRAQ INTERNET USING

After analysis the Iraqi society digital stats (figure.2), we found that nearly 50% of the Iraqi population using internet in beginning of 2018. The most visiting website between Iraqis is YouTube with 82% as a percentage from the using internet population. The highly percentage of the internet users are 60% and they are between ages of 17-24 years. These stats numbers show us very clear that Iraqi society digital culture are growing up widely and quickly. Also the international telecommunication union (ITU) give us another stats number that said 94% of Iraqi population hold cell phones and by analyzing this number with referring to other stats, we can find it easily that more than 70% of those holders have smart phones.

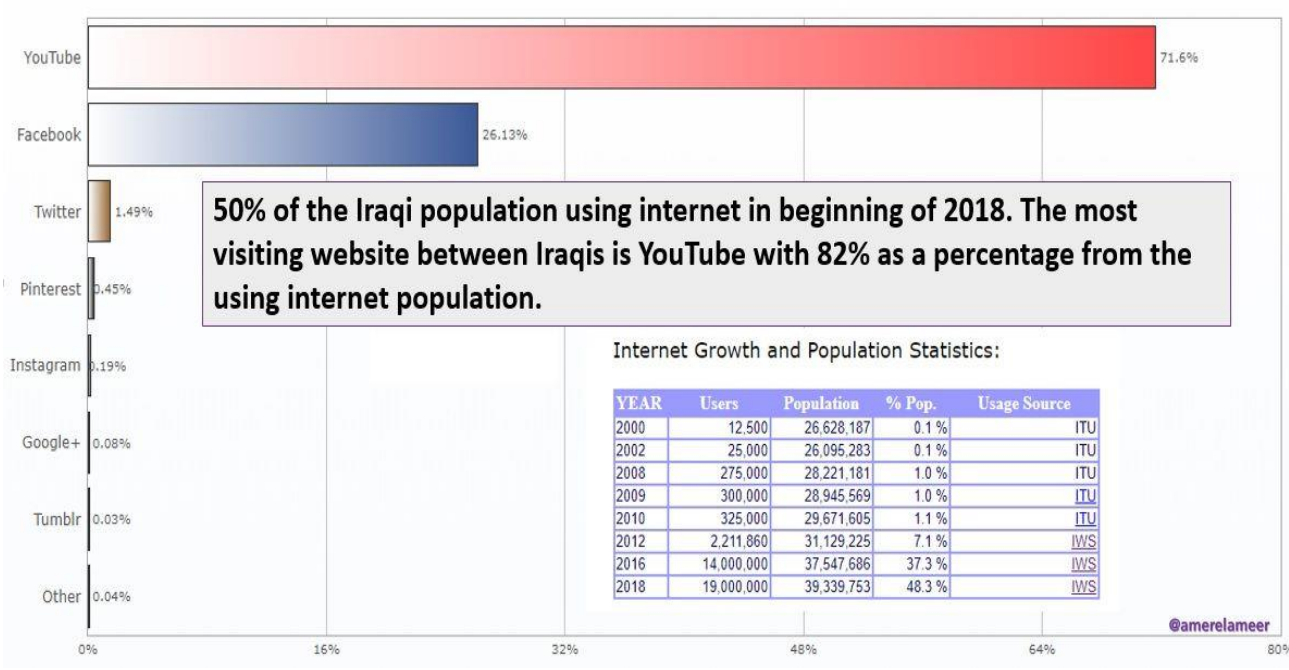

Figure.2: The Iraqi Society Digital Facts
https://www.internetworldstats.com/me/iq.htm

These numbers show us very clearly the growth of the internet culture between Iraqi populations. It increase 19% in less one year between 2017 and 2018. There are no noticed role for the government in this healthy increasing indicator. The main role is to the Iraqi people loving development and progressing. In the other side the government roles was against these numbers because of the bad expensive highly taxed fees and some illegal government orders of cutting the internet services without acceptable reasons.

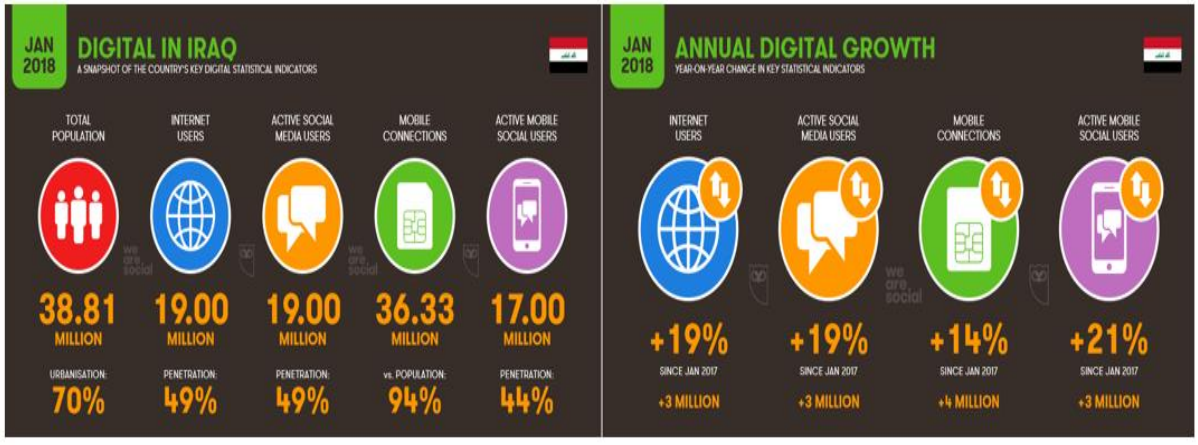

Figure.3: Facts about Internet using in Iraq

UN SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Iraq as a country have signed the announcing the Development Sustainable Goals in 2015, and in most of the SDGs, ICT are representing by a way or another and these goals shown in the figure.4. To achieve ICT progressing for the purpose of achieving really sustainable development in the Iraq society, we have to work hardly and effectively to adopt e-government and e-governance. Talking about the expression of e-government or writing articles and researches, do not mean that we have succeeded in achieving the e-governance or establish a real Iraq e-government. Iraqi government's trials to establish the e-government services starts at the beginning of 2014.

Figure.4: the UN Development Sustainable Goals (SDGs)
https://www.un.org/sustainabledevelopment/sustainable-development-goals/

PLATFORM OBJECTIVES

The main platform objective is raising the Iraqi higher education learning quality and efficiency by e-learning adoption and change the Iraqi society towards knowledge economic society by adoption of lifelong learning in its educational system and activities.

BAGHDAD E-LEARNING PLATFORM

This platform contains in its first adoption more than 24 web designed e-learning applications towards a real electronic universities. The platform was named as ***Baghdad e-learning Platform 2017*** and was tested for more than three academic years in Iraq (first stat was at October 2015) at ***Informatics Institute for Postgraduate Studies (IIPS)***, Iraqi Commission for Computers and Informatics (ICCI), Baghdad, Iraq.

METHODOLOGY

ADDIE waterfall approach was used to design the roadmap to solve the problems and design the platform. As a part of the solution, not the problem, we design Baghdad e-learning platform, after a long investigation on the Iraqi learning process, and put the platform in the hands of the teachers in the blended learning process. We designed it to be an institution between the hands of the users in very simple ways and methods. The ADDIE instructional design classic Waterfall development model shown in the figure.5,

and it was used for its evaluation assessments during designing and executing and its summative final evaluation. (Elameer & Idrus, 2011).

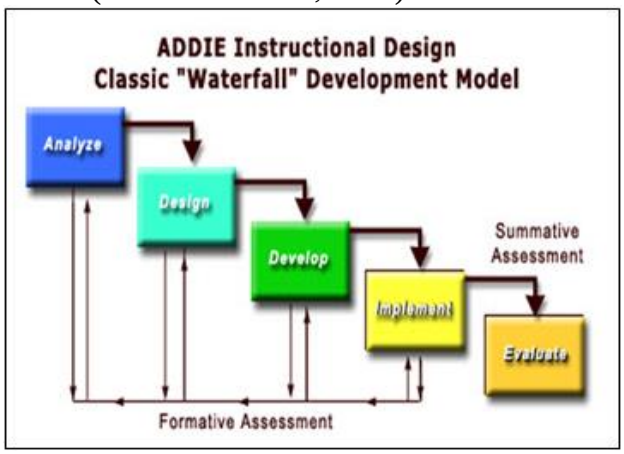

Figure.5: The ADDIE Instructional Design classic Waterfall Development Model

- ***Orbital e-Learning Framework***

Baghdad e-learning platform was designed according the e-education orbital framework. The Orbital framework is the only framework which covers the sustainability issues that is required for the future of education in all of the world and it is the main target of the United Nation Development sustainable goals 2030. (Elameer & Idrus, 2011). The orbital e-education framework shown in the figure.6.

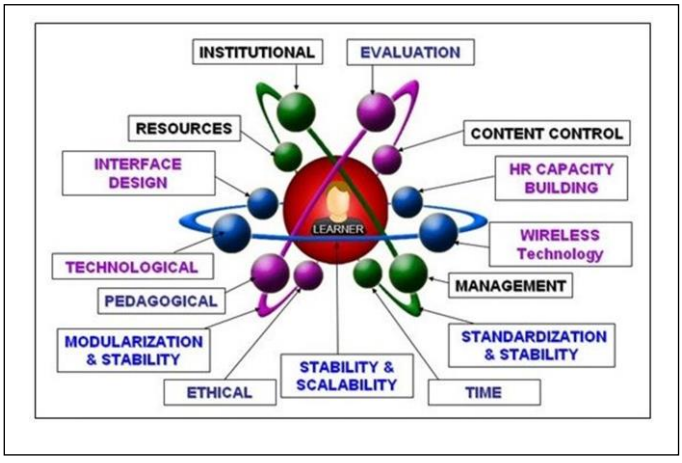

Figure.6: the Orbital e-education framework

BAGHDAD E-LEARNING PLATFORM

1- DESIGNS AND CONTAINS

The main page of the platforms contains five main gates and they are: Learner gate, Teachers gate, Management Gate, Service Gate, Lifelong Learning gate.

The main platform page and gates application are shown in the figures.7, 8, 9, 10, and 11.

Figure.7: The Main Platform Page

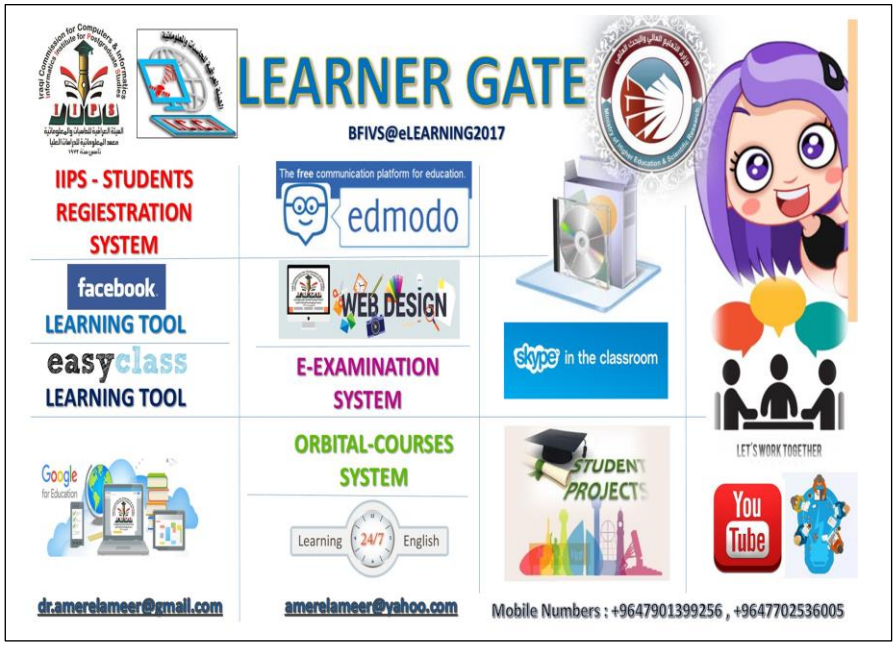

Figure.8: The Learner Gate on the Platform

Figure.9: The Teacher Gate on the Platform

Figure.10: The Management Gate on the Platform

Figure.11: The Service Gate on the Platform

Some of these applications are programmed according to the Iraqi higher education special environment and needs and have its locally programmed learning management system (LMS) and learning activities management systems (LAMS) and content management systems (CMS). In addition, some other web application was used like Edmodo, YouTube, and other social applications.

2- PLATFORM SPECIFICATIONS

a. ICT Platform Specifications

Our platform doesn't require you to install specific hardware or software in order to access and use it. It Utilization Cloud-Based Technology and Cloud-based technology allows students and teachers to have access to content and resources wherever they are while still being able to use the tools that they need to use to accomplish their goals. There should be no more lost files, missing resources, or lack of access and this is an essential part of a school's digital transformation. By logging into a web portal as a teacher or learner, you will have and your learners have access to the features of the platform solutions. Most social applications are cloud-based and the new education world is following suit. Also it is:

1. Cost-Effective

Our platform are more cost-effective than an installed LMS.

In the long term, we also don't have to pay for maintenance, upkeep, and support so you'll never be charged huge upgrade costs in the future. (Hon, 2014).

2. Implementation Time

By using the designed platform, you don't have to have to read using manuals or have lengthy meetings with platform designer or managers to discuss installation and implementation of the system making it a speedier process. Only you need to access the web portal of the platform and follow the easy instructions. (Kanjilal,2014).

3. Easy to Use

Web applications are ubiquitous. Whether it's using Google education applications or Facebook or any other application, to catch up with friends, uploading files to Google Drive, or making yourself heard on Twitter, we are using a cloud-based web portal. This means that our platform falls in line with the more common choice for users thus making adoption easier. There is a familiarity that makes it much easier for your learners to use. (Grewe & Davis, 2017).

4. Configurable

Many education applications find that a high level of configuration works for them. Our platform are like cloud learning management systems generally allow you to change color schemes, templates, turn features on and off, and even brand and white-label (Xiao & Pardamean, 2016). Our platform might be as customizable and configurable as required.

5. Mobile-Friendly

Our platform allow you to use the software from anywhere on any device. Any device that can access platform portal web page can be used to access the platform LMS if he is authorized. Platform with a responsive design ensures that the user interface responds to the size of the device. (Grewe & Davis, 2017).

6. Secure and Scalable

Our platform are highly secure in order to give confidence to the teachers and students. Platform have secure code and processes. Data also are encrypted in transit and at rest to ensure that platform data is always safe. (Khanna, & Basak, 2013).

7. Low Maintenance

The maintenance of our platform is taken care of by the designer now. (Xiao & Pardamean, 2016).

8. Streamlines Learning

Our platform have been designed to be easy to use. It was built from the ground up with this at their core. (Meinke, 2018). The process for developing and delivering content through our platform is as follows:

- Define learning objectives
- Create the content
- Upload the content and check the students enrolling into courses
- Enroll learners
- Ensure learners complete the learning or training.
- Reports on completion and performance
- Feed that information back into the course creation process

The platform is a great choice for any subject that wants an easy-to-use system that will save them time and money.

b. Platform Pedagogical Offers

With great features and lots of benefits, it's a worthwhile investment for a growing learning today.

1- Solving Problems in Schools First and the Trend Towards Digital Knowledge Society

The designed platforms have made a real progress in the educational systems during its testing process evaluation and have begun a real adopting digital means to reach the real integrated electronic environment. Without elimination of the role of teachers or university professors in the Education process, or changing the education and learning philosophies.

The platform using improve the help, support, increase and raise efficiency of the education process, within the concept of blended learning (BL) as shown in the figure .12 (Grewe & Davis, 2017).

Figure.12: Some Platform Basic Electronic Pedagogical Characteristics

BL unfortunately is completely absent from our educational institutions in all forms and types and classifications from primary schools to universities in Iraq. In Iraq they are still looking for methods of mechanization modern, even though it has become a free software and can be used after adapted according to the needs of the school or educational institution and easily. (McKenzie, 2017).

Both methods of blended and adaptive learning have been used in the platform and they completely guide the learning towards real learning process which have seen a stable rotation toward extra personalized learning.

It also enhances teachers towards further methods to produce individualized learning chances for their students. (Ozdemir & Hendricks, 2017). Adaptive learning technology examines learner's input and immediately adjusts the learner's learning materials and evaluations. Adaptive learning implements can raise classroom lightness and support learner completion.

2- Educational Mechanization and Management

The mechanization of educational institutions and schools and the use of modern electronic technologies in management, planning and implementation does not mean in any way that it is the e-learning required to achieve a good and sustainable education because it falls within the concept of electronic administration and e-governance but does not fall within the concept of e-learning in its educational side (e-schools). (Abeywardena, Chan & Tham, 2013) (Rhoads, 2015). To solve this problems the platform covers a lot of the learning institutions managerial process which are related to the learning process or teachers and learners.

3- Learner-Led Learning

Platform used the 21st-century education concepts which has carried student-led learning to the following level with wireless presentation systems and representing devices. Our tested students are often cultivate more relaxed with a subject after teaching others about it. (Amiel & Soares, 2016) (Cohen, Omollo & Malicke, 2014).

4- 1 to 1 Ratio Classrooms

An important digital change tendency we expect to the diocese in 2018 is the increase of one computer per learner. One-to-one supplies educators the flexibility to supplementation the core curriculum with interactional online content to produce more highly moderated lessons. School IT squads use from standardization. (Rhoads, 2015). In our test, one laptop per learner has been shown a great an impact. To use these devices efficiently schools are installing wireless and classroom instrumentation systems such as Screen beam's Classroom Commander, which enables teachers and learners to work in a completely interactive, graceful classroom. Classroom Commander helps teachers maximize learner arrangement and retention in many paths. For example, teachers can, frankly, move across the room while presenting, watching student reactions and understanding (unfortunately, we do not have it in Iraq, but we are going to gain it). Teachers can scan all learner screens and active applications, and can get under way websites and apps across learner devices, and clear screens on a single device or the complete classroom when desired or required. Classroom Commander Collaborations help teachers to use their own expertise more productively than ever previously.

5- Lifelong Learning

To build a sustainable developed society, we have to adopt and certify the lifelong learning. The ICT revolution open the universities or learning institutions doors widely towards the lifelong learning and simplest it's learning procedures in all of the developed countries and societies.

In Iraq open learning or distance learning is not certified by the higher education ministry. There is no trials to adopt it in the Iraqi higher education sectors. All Iraqi universities have continuous learning department as part from the universities roles in developing the societies but these department focus on short courses only that related to training not learning. Even with, our MOOCs system in the designed platform cover the lifelong learning and make it possible easily to apply in the Iraqi higher education sector.

PLATFORM ADOPTION RESULTS

As a result, the Edmodo Company has certified the Informatics Institute of postgraduate studies as a real learning society (figure.13). Three different MOOC system applications were also designed and executed in the platform with a total number of students of 1400. Baghdad is aiming to be an e-learning and lifelong learning city in 2022.

In addition, it was the first time and trial by any Iraqi higher education institution to adopt a social learning tool in its daily learning activities. In addition, the designed platform made a huge impact on its limited using but it is planned to expand its using in three universities in the next academic year in Iraq.

The Iraqi young students and learner comes to the universities with reinforced ICT skills which is better than their teachers and our platform organize this process problem by putting the teachers in the driving seat of the learning process, and put the students with his ICT abilities in controlling of what they learn and how he wants to learn with complete teacher supervision, and institutions head quarter monitoring.

Figure.13: Edmodo certify the IIPS Learning Community as Real Learning Society Electronically

The platform was designed according to orbital e-education framework, which was the only framework that takes into consideration the sustainable developments and put the dimension of education standardization, stability, time in the planning of the education process.

By this way we can achieve the peace goal and push the complete education process and system towards peace and sustainable developments. (Ozdemir & Hendricks, 2017).

OTHER SOLUTIONS ACHIEVED FOR IRAQI HIGHER EDUCATION

More than 30 meeting, workshops and conferences in Baghdad, Nahrain, Mustansiriyah, Technology, Diyala, Kufa and others Iraqi universities and learning institutions, for increasing the e-learning culture between Iraqi academics. A lot of e-learning solutions have been designed, programmed and executed locally (some of them are personal and others are IIPS achievements), like:

- MOOCIIPS which is the first Iraqi MOOC system, designed and executed in the Informatics Institute (IIPS). (Figure.14)

Figure 14: The IIPS MOOC System Main Page

- MOOCRDD which is the first Iraqi lifelong learning and Training MOOC system, designed and executed at the IIPS for the benefit of the Research and Development Directorate at the Ministry of Higher Education and Scientific Research (Ministry HQ). (Figure.15)

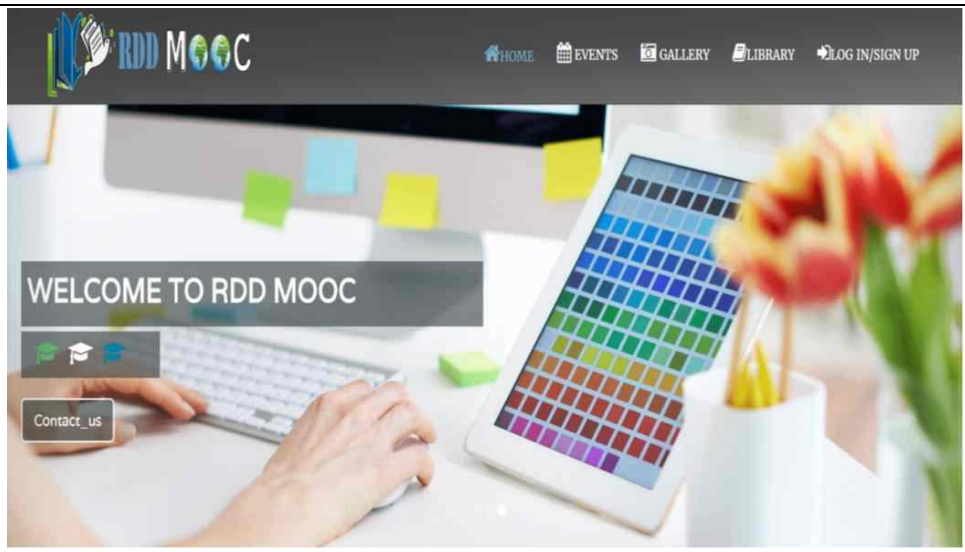

Figure. 15: The RDD MOOC System Main Page

- MOOCUIVER designed and executed at the IIPS for the benefit of the Iraqi universities.
- Iraqi higher education academic monitoring system, designed and executed at the IIPS for the benefit of the Research and Development Directorate at the Ministry of Higher Education and Scientific Research (Ministry HQ). (Figure.16)
- Iraqi higher education Atlas and it was the first ever Iraqi institutional Atlas, and it was tested by using it in four Iraqi public universities that are located in Baghdad and was designed and executed at the IIPS for the benefit of the Research and Development Directorate at the Ministry of Higher Education and Scientific Research (Ministry HQ). (Figure.17)
- The first Iraqi e-university model, and it was designed and executed at IIPS to cover all the universities management, learning and administrative needs. (Figure.18)

((In our roadmap philosophy, we give the chance to the learners to lead the learning operation under the control of their teachers))

Figure.16: The Iraqi Academic Monitoring System Main Page

Figure .17: The Iraqi Higher Education Atlas System Main Page

Figure .18: The e-university System Main Page

CONCLUSION

By using the platform we made our learning as collaborative and social learning (Amiel & Soares, 2016) and improve that our student's outcomes and the quality of the learning. The platform is:

- Combine electronic content management systems and social networking
- It contains several presentations and different forms of educational content for every type of different materials.
- Helping to exchange ideas and access creative collective thinking.
- Create virtual classes easily by teachers Create group discussions, send messages and share files.
- Create a digital library that contains learning resources for educational content.
- The possibility of conducting electronic tests in different forms and types easily.
- Ability to download and play on fixed boards and smart phones

- Provides immediate follow-up capabilities for learners International educational interaction between universities and students of different countries and cultures
- Create the highest degree of interaction between the learner and the student through text or video conversations
- Solve the problem of private tutoring with access to non-traditional solutions to this problem.

We try to cover everything and we can say after post platform evaluation after two complete years of pilot trial, it achieved its designs goals.

As additional benefit from the platform, it provide opportunity to the learning of the disable students and learners. As a future step, Information can be used to personalize the learning happening directly (with adaptive learning technology), but it can also personalize fundamental interactions with learners. Teachers can use interactive classroom orchestration devices such as Windows Ink, and touch screen demonstrations to give learner's significant real-time feedback immediately on their devices in a 1:1 environment. When you add in analytics merged from a school's learner information system, teachers can go even more distant in adapting content to outfit the learner's needs. By group and rend data from learners, analytical technology can enhance knowledge retention and learner engagement. Personalizing what the learner gets can best assist the learner's concerns and learning shape.

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