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Material Analysis and on MOODLE Software in Misan University

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Abstract. Training in innovative technologies in any field of production is impossible without using innovative contemporary technologies in the field of education. Accordingly, the aim of this paper is to shed lights on innovative technologies in education, i.e. mean E-learning. E-learning is a broader concept that includes itself and distance technologies. In addition, e-learning does not reject traditional technologies, that is, modern teaching should be mixed (blended) character. In this paper, the main problems of e-learning will examine as well as propose approaches to their solution. the experience of e-learning with "Electronic educational environment" (EOS) is implemented on the Moodle platform in University of Misan in Iraq. To a greater extent, this paper will focus on the issues of qualitative assessment, acquired knowledge, and competencies.

Keywords.E-Learning-Electronic educational environment (EOS)-Moodle platform.

INTRODUCTION

Each institution that uses e-learning develops this concept by any means, even without any ideological support. This leads to the fact that the university is "Reinventing the wheel", although it does not represent why they need it and for what reasons. This leads to time costs and the product does not always correspond to qualitative characteristics. Therefore, the need for understanding the concept of e-learning, and this problem should be solved within the responsibility of the in the state[1].

At present, there are many software and platforms. There are author's developments and developments of large companies. The most popular are Global developments: "eLearning Server", " "Web Tutor", "Competent. Magister "," Prometheus ". Special attention should be paid to development of foreign companies: IBM Macromedia, Smart Force, Blackboard and many others. It is impossible not to mention such a platform as Moodle which is popular in USA and Europe[2-4].

As for functional characteristics of all listed products; they do not differ significantly from each other. With such an abundance of quality tools to implementation electronic courses, many educational institutions create their own development. On ours, this is extra time and money costs. The quality of the created system is always will be inferior to existing developments. To their own systems, educational institutions hope to save the money and making the money of their own programmers, but this, as already mentioned, is inefficient. The best approach to which is hoped that these are recommendations and material support for structures should be on the part of the state[5].

Another serious problem is the unprofessional pedagogical staff. Here lies the significance of electronic training. It needs to be qualitative, effective, progressive. Moreover, it is necessary to master innovative technologies by lecturers. Unfortunately, the lecturers feel labour intensity of electronic technologies, despite the fact that many authors state that e-learning will lead to the facilitation of the lecturer's work. In fact, e-learning requires a lot of feedback from the lecturer, and we'll talk about it. so, the motivation of the lecturers is needed. This problem can and should be solved by heads of educational institutions[6-8].

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This paper presents a literature review of e-learning, study the challenges of E-learning, a comparative study based on features and capabilities of e-learning tools and the main part of this paper is introducing the exercise service to e-learning (Moodle).

CHALLENGES OF E-LEARNING (PROBLEMS AND SOLUTIONS)

The study starts with the main problems of e-learning of global characteristics[5-7]. They are as follows:

- Lack of the concept of e-learning,
- Lack of support from the state for providing platforms for implementation of e-learning,
- Unpreparedness of pedagogical staff, and
- Lack of motivation for mastering e-learning technologies.

Of the global problems that need to be solved at the highest level, we turn to more urgent, which lecturers face, and can be solved by all. In e-learning, we distinguish three components[8-10]:

- Teaching material,
- Interaction, and
- Evaluation.

The quality of learning primarily depends on the quality of electronic content. Therefore, nowadays, much attention is paid to multimedia content. Many authors should take care of the trainees, to involve them in the learning process and this is facilitated by video materials. In our opinion, what is important is to make the learning process attractive. It is possible, and this is the function of the lecturer who should solve this problem on his own. Students should be involved in this process. Students and specialists are interested in learning. They know what they need, so this problem for this category of trainees. We do not deny the role of multimedia. Video should be included in the electronic content. When we want to show production processes, experiences, natural phenomena and so on, when the image is better than the narrative.

Within the framework of the discipline "Informatics" when studying computer technology, we include videos about museums, computer technology, while studying information technology, recording presentations, speeches of the largest specialists in the field of IT technologies. Further, video should be included, when they are and they need to be shown in the interests of discipline. When it comes to special disciplines, here " lures “are not needed. But there is a need for webinars and main classes which are presented by qualified specialists as well as speeches from conferences on issues of interest, etc.,[11-13].

Another important aspect that needs to be noted is the adaptation of teaching material under the trainee. This, at the present time, is the most relevant and promising component of e-learning. Adaptation of teaching material in learning process is carried out under the image (model) of the trainee. In [11], the authors proposed the interactive model of learning that is adapted with the learning process, teaching process, and the process of testing under different images of trainees. In the work image, the trainee was built on the basis of preliminary research and could be modified in the learning process. The proposed model and other models [12] are viable, but unfortunately, laborious. Using learner models is justified if the training course is created under a classical discipline and the content which is less susceptible to change, on the one hand. On the other hand, if the system is focused on individual training. In the training of specialists, most courses (professional and specialized) require constant improvement, additions, and modifications of educational material. Therefore, the time preparation of adaptive content exceeds the aging time of the material. In this case, you can suggest using a multi-level model of the training material. Teaching material should be designed for different levels of the original preparation and competence of the trainee. It is necessary to consider at least three levels: low, medium, and above average. The basic course is formed under the average level preparation, but there is an additional, explanatory material for the trainees whose level of preparation is below average. Trained with a high level of training is necessary to provide additional material that will help them deeper to understand the problem. Multilevel, in this form, is a private view interactivity of content. Providing multi-level content, also, functions as labor-intensive process for the developer[13].

E-LEARNING IN UNIVERSITY TEACHING

E-learning has been utilized productively in university teaching for reinforcing the classical forms of teaching and administration .Now, the students in many universities can access to the lecture notes, many courses in support

of their study through the web and they can make personalized web environments in which they can join discussion forums with their group and this type of access afford them more flexibility of study[8-9] .

In addition, the part-time students can easily access the lectures or courses and this gives supports the targets of wide involvement, removing the classical barriers to higher education study. In our opinion, it is better to adapt the content of the learning process to the learner rather than the content. That's exactly what they do with the traditional training. Adaptation of e-learning can be achieved with the help of means of interaction. In this regard, we emphasize that e-learning system is not an automatic system, but an automation system monotonous, uncreative work of the lecturer, leaving the creative component lecturer[14].

Interaction is A broad concept defined by the following components:

- interaction "student system "
- (" lecturer - system"),
- "Student - content »
- "lecturer - Student",
- "Student - Student".

Interaction with the system, in our case, is simplified by the developers of the platform, Moodle, and is reduced for the lecturer - developer course for content preparation, tests, for the lecturer of the tutor, to communicate with students[15]. The medium has a large number of services and simplifies their use in a clear and convenient interface.

MOODLE

The term of Moodle refer to Modular Object Oriented Developmental Learning Environment. it is consider as CMS and LMS (Course Management System, Learning Management System respectively) . it can reached by the Internet. It is an open source system therefore, It is a free web application that educators can use to create effective online learning sites. One of its main advantages is its, or has open source allowing any user with programming knowledge to modify and adapt the environment according to their own needs. [16-17]. MOODLE has a number of advantages in education. MOODLE is very easy to install, upgrade and use.

MOODLE is platform independence so it does not need modification on UNIX, Linux, Windows, Mac OS and any other systems". It is specially design for educational purpose; it has special feature which other e-learning plat form is lack off. MOODLE [18] supports user authentication. User account can be created to access the MOODLE portal site. Once logged in, users can access to the courses they are registered for. According to the Moodle documentations "the manager of moodle can be added the Lecturers as a teacher's permission, then, they can modify the course's site, including marking students and modifying the activities, prepare to the online quiz or exam". The contents of moodle courses compose from various type web pages like HTML files, multimedia files and hyperlinks. In addition, the moodle has different activities as (forum, quiz, choice, chat and assignment).

Any lecturer, who has a minimum of knowledge in the field of using electronic technologies, can easily to master the proposed service. As for the students, then to work in the environment of the University of Misan on the platform, Moodle. It is enough to have skills of working with information systems and presenting the objectives of the learning process[20].

Interaction with the system is controlled by the system itself. Interaction "student - content "is implemented by the environment and the lecturer's using of instructions and methodical instructions and work with teaching material, tests for intermediate control and self-certification, participation in webinars, work with means of interaction ("blog", "journal", "pages" WIKI "," Forum "," my assessments " etc.)[21].

Interaction "lecturer - student" is the lecturer's management of the teaching process with the help of a large number of funds, which are incorporated in the University of Misan Management of learning and teaching material using the means of adaptation to educational process, for example, allow a new topic to be studied only if passed the previous one. In some training systems, it is enough, just to open previous topic to go to the new one. University of Misan allows the lecturer to set a criterion for assessing the quality of the knowledge obtained. For this, the lecturer creates, according to each subject, a control measure. If the student has completed this activity on time and with required level of assessment (the lower level or range of estimates), then, only in this case, he/she can move on to a new topic, otherwise, the student continues to study the topic that has not been covered. When the study is repeated, the terms change and therefore there are other criteria. Similarly, this approach can be used in attestation knowledge with the help of a series of tests: you cannot go to a new test, if not done criteria of the previous test which were very convenient and qualitative adaptation of the educational process under the trainee. Number of students using Moodle at University of Misan is shown in table 1.

TABLE 1. MOODLEStatistic

Items	Total
Courses	689
Users	7841
Assignments	157
Posts	1458
Lecture as text	1258
Lecture as video	72
Exam	34
Questions	1147

The most powerful tools for managing the educational process are such tools of interactions, such as "blog", " Forum News", "pages" Add an activity or resource "," Forum ". " Forum News" is best used for group or individual confidential work on projects and laboratory works. Confidentiality, it is justified in those cases when typical laboratory works and projects are performed. "Blogs" and "forums" are also needed tools for discussing innovative technologies, solutions, and projects. Basically, in all these discussions, there is an active role is assigned to the lecturer (tutor).

There is an irreplaceable tool for reconciliation, correction of documents (instructions, regulations, projects, programs, an explanatory note for a diploma, course work, a project) over which can be run by a business group or an individual performer, with an active participation of the lecturer. Such a tool can be considered as "pages WIKI ". Work in this case, it is an iterative process with remarks, corrections, visual presentation of the contribution of each participant. All this speaks about broad opportunities for the use of «Pages WIKI; the most recognized and effective method of teaching - this is teaching others.

Interaction "student - student "in the University of Misan on the platform Moodle is shown in Figure 1. It can be implemented with using tools such as "self- assessment and evaluation partner." The tool allows check and evaluate the work of other students on various topics. All these tools improve the quality of teaching, but it is required from the lecturer to be active and continuous interaction with the system and students.

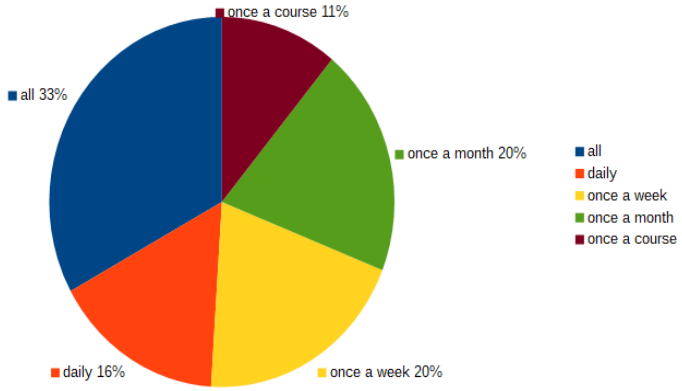

FIGURE 1. Frequency of use the platform

Now we move to the evaluation, the knowledge, and competences acquired by the students, and also the quality of this process. One of the main advantages of e-learning - this is testing. It, indeed, facilitates the process of assessing knowledge: automation of this process frees the instructor from testing answers to test tasks, allows you to form a large number of test cases, mix test tasks and answers to them and to increase the base of test tasks for their repeated use. Figure 2 shows students who knows about moodle platform.

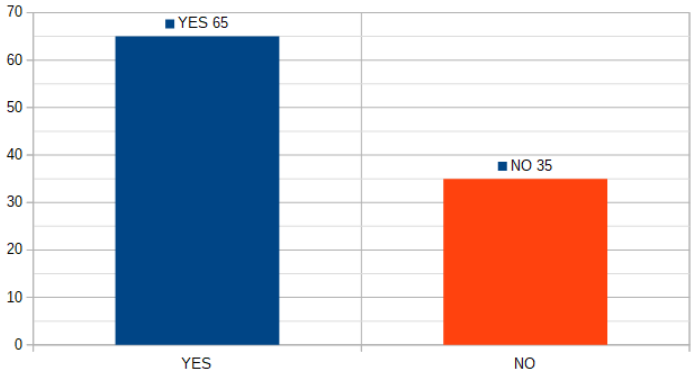

FIGURE 2. Students who knows about moodle platform.

Testing is an indispensable tool for assessing knowledge, but only with the proper formation of test tasks, it can be talked about the evaluation procedure, the quality of the assessment of knowledge, and competences. Before proceeding to the issue of qualitative assessment of knowledge and competencies with using testing, can note one form of evaluation: a written survey as shown in Figure 3.

Verification of written answers is complicated by the recognition of the learner's insight, which is often "unreadable". Therefore, when writing a questionnaire, one should use Moodle. This facilitates the process of verifying responses and, further, makes it transparent.

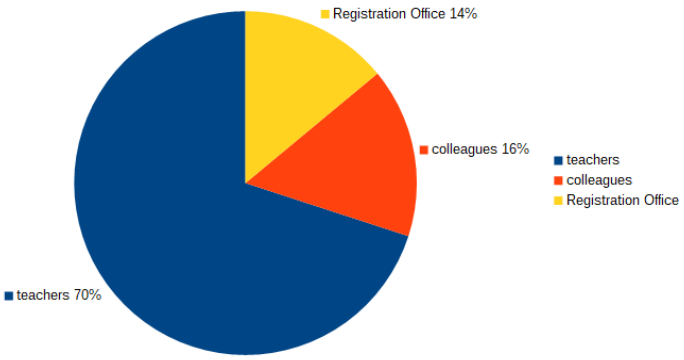

FIGURE 3. Information source that's help students to know about moodle.

EVALUATION PROCESS

Transparency is achieved by using the "evaluation criterion", which indicates the weight of each question and the grading of the evaluation. The quality of testing is determined by the quality of the test tasks from whichthe test is formed. In the Moodle, there is an "Element Analysis" tool, which you can see the complexity of each test task included in the test. Complexity is understood as the percentage of incorrect answers. This tool allows to identify tasks that are not answered correctly by any student, identify the cause and modify the test task, and also, and exclusion from the database test tasks, on which all students answered correctly, since these tasks are uninformative and, therefore, excluded from the database. With the help of this tool, we conducted an analysis of the in formativeness of the form.

TEST TASK

In accordance with the normative documents of the State Standard of international and Iraq, the following forms of test tasks are accepted by standards: an open task, an assignment closed form with one correct answer, setting a closed form with several correct answers, assignment for correspondence, task for sequence, and task on designing. The performed analysis showed different information content of the test tasks depending on its form. The greatest in formativeness of test tasks closed form with several correct answers, assignments for compliance, assignments on the sequence (the design task in this experiment was not used).

The minimum informative value of a test task of a closed form with one correct response, and the in formativeness is less in comparison with other forms in almost two times. It is necessary to pay attention to the fact that most of the tests that develop lecturers are built on closed-form test tasks with one correct answer, which is unacceptable, especially when assessing competencies.

At the confirmation of this conclusion is the result of another study. Based test data with various forms of test tasks were built on images. A class (image) of students that can be correctly recognized by only test tasks closed form with one correct answer. The quality of acquired knowledge and competencies, based on tests, can be estimated from using the generalized algorithm [13], which considers the test scenario, weight (informative) of the test, which, in turn, is determined by in formativeness test tasks and weight coefficients of forms.

Note that competence can be assessed with the help of tests, but it is necessary to pay attention to the quality of test tasks: to be excluded from the test tasks closed form with one correct answer, and creatively approach the creation of test task. In the environment of Moodle on the platform blackboard, there is a template for an open test task, which is called a "hot spot".

Question is formulated on the basis of the methods, the plan, the method, the algorithm, the project, the scheme, etc. As answer, it is necessary to specify a point accordingly on the scheme, the project, in the algorithm, method, plan, method, and the like. This form has unlimited evaluation capabilities competencies.

Let us deal with the results of another study, which we conducted in assessing competencies. Usually when evaluating test results and the quantity correct answers, we have noted one feature, some students very rarely give a full correct answer to a test job of a closed form with several answers. Therefore, when assessing the test, we begin to consider incomplete answers. Namely, incomplete the correct answer (the answer in which only the correct options are marked). Based on the sample containing the test results, images of students were built. Each sample object was described by the number (percentage) full of correct responses to a closed-form test task with one, two, three, and four valid answers, the number (percentage) of incomplete correct answers, respectively, with two, three and four correct answers. Based on the prepared sample, algorithms cluster analysis, and strongly pronounced classes (images) were formed, in the description. One of which was mostly attended by signs that reflect the number incomplete correct answers on test tasks of complex shape. These signs entered into the decisive rules and other images. Thus, they can be considered significant factors and take into consideration when assessing knowledge and competencies. Thus, the quality of the assessment of knowledge and, to a greater extent, competencies is determined by the quality of the test tasks and the correct determination of their weight.

CONCLUSION

A laborious process that requires lecturer of in-depth knowledge and creative approach. On the basis of the foregoing, it can be concluded that a high-quality electronic training is possible, but it requires:

- Interest and understanding of the issues of e-learning structures,
- High labor costs from the lecturer.

Since e-education requires labor and, consequently, material costs, there is currently no rapid development of electronic learning. But, at the moment, this is not a matter of payback, but survival.

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